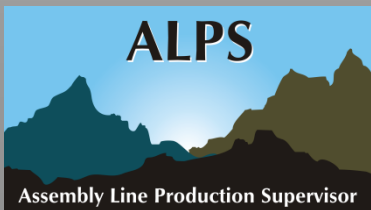
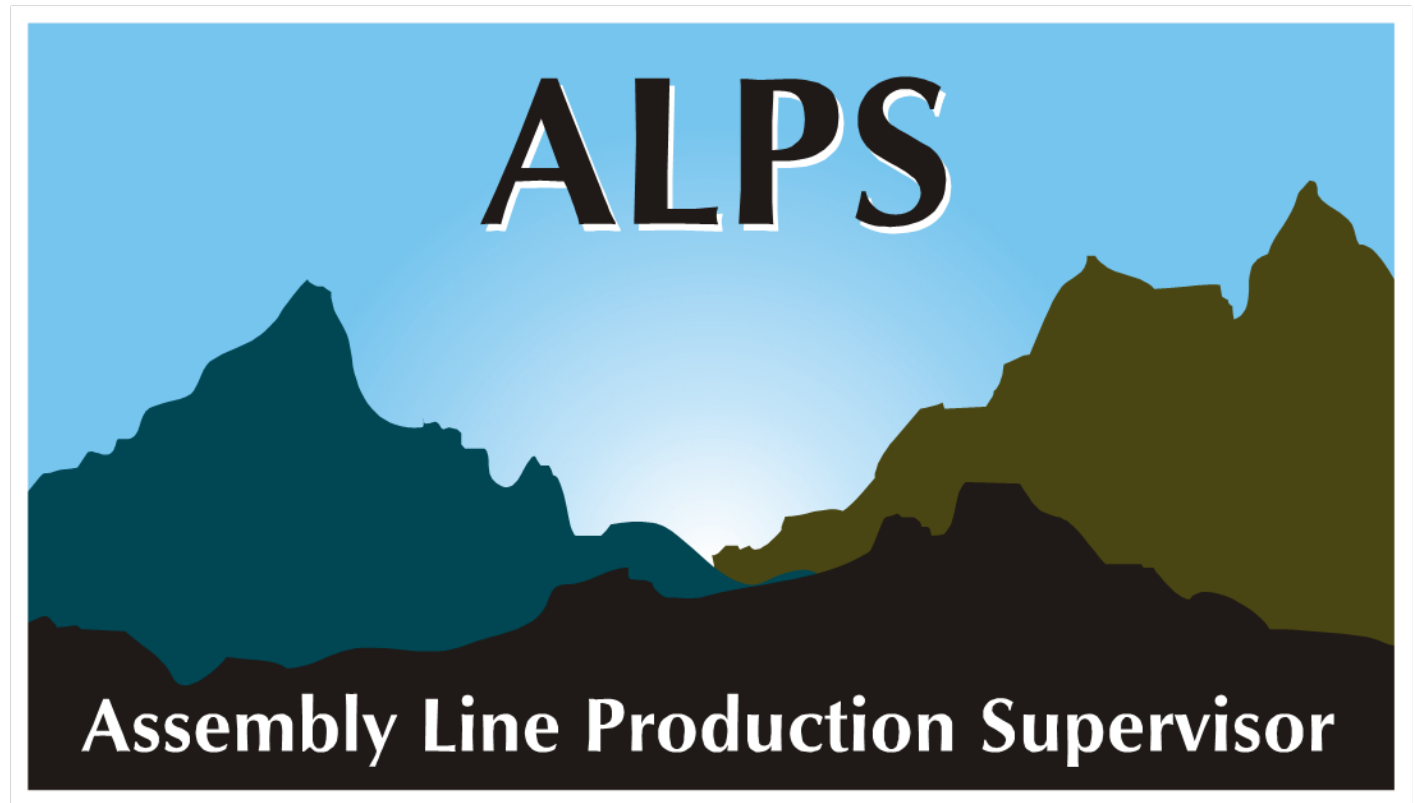
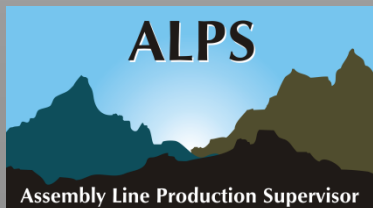


# ALPS 3 Business Benefits



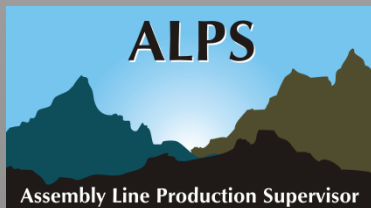
# The ALPS 3 Value Proposition

- Faster **new product development** by supplying qualification lots faster, with higher performance and quality, using more precise process control
- **Reduce cost** by increasing yield with improved process control
- Confirm reputation as **world class manufacturer** by providing instant and precise reports on work in progress (WIP)
- Improve reputation as **technology leader** by offering advanced packaging solutions such as multi-project wafers, system-in-package (SiP), MEMS, etc.
- Achieve a rapid **return on investment** while internal resources remain focused on core competence



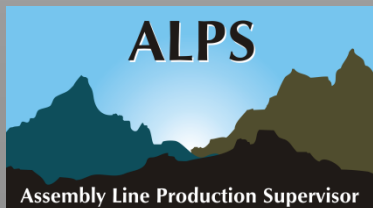
# ALPS 3 compared to Today

- Identify and correct yield/defect trends precisely
  - Feed forward test/inspection results and production data
  - Feedback final test and field failures
  - Collect data on consumables such as strips, epoxy, wire, mold compound, etc.
  - Pin-point source of process defects to wafer or strip geometry, process step, equipment, consumables, operator, shift, etc.
  - Use real-time data to expedite corrective action for process defects
- Inkless binning for more substrate types, e.g.
  - Multi-project wafers, more than one device type on a wafer
  - Strips containing System-in-Package (SiP) and MEMS assemblies
  - Trays, e.g. JEDEC, burn-in, etc.
- Integrate wafer sort, assembly and test factories with secure data transfer
  - From wafer sort to assembly to test and back
  - Encrypted, reliable and direct transfer via web services
    - No more lost maps!
  - Supply chain integration



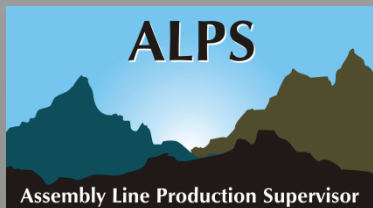
# ALPS 3 compared to Alternatives

- Time to market
  - Available immediately
  - Full understanding of standards (e.g. SEMI E142)
  - Professional, scalable data management
- Equipment Integration
  - Excellent working relationships with equipment vendors
- Supply Chain Integration
  - Wide range (>500) map data format converters
  - Secure reliable plant to plant transfer
- Long term continuous improvement program
  - Already in place at Kinesys Software since 1995
  - ALPS feature set acknowledged as the best in the industry
  - Guaranteed reliability and performance
  - Excellent visualization and reporting tools



# Alternatives to ALPS 3

- Alternatives are...
  - Develop internally
  - Choose competitor
    - Equipment Vendor
    - Independent Software Vendor (ISV)
- Time to market - 2-3 years to...
  - Understand standards (e.g. SEMI E142)
  - Build up application expertise already available at KINESYS
  - Develop data management
  - Develop visualization tools
  - Work with ***all*** equipment vendors to implement SEMI E142
  - Develop ***all*** map data format converters
  - Develop secure reliable plant to plant transfer
  - 15+ man years initial effort plus similar effort for maintenance
  - 15+ man years effort for maintenance over product lifetime
  - No sharing of costs with other users
- Inferior solution
  - Little or no documentation and diagnostic tools
  - No commitment to a continuous improvement program
  - No access to expertise at other semiconductor manufacturers



# Conclusion – ALPS 3 Delivers

- *Fast time to market*
  - ALPS 3 is available immediately and includes...
    - Full understanding of standards (e.g. SEMI E142)
    - Professional, scalable data management
    - Excellent working relationships with equipment vendors
    - Wide range (>500) map data format converters
  - Initial deployment within months
    - Work with equipment vendors to implement SEMI E142
  - Immediate benefits
    - Qualification lots available faster
    - Higher product quality
- *Superior product quality*
  - Better understanding of the process enables...
    - Improved design for competitive performance
    - Smaller package size
    - Predictable yield
- *World class manufacturing ability*
  - Excellent visualization and reporting tools
    - Aid the process engineer to identify and correct problems
    - Accurate process data available in real-time throughout the supply chain

