Maps, Maps Everywhere
A Unified Approach
What is a Wafer Map?
How are Wafer Maps Used?

Database containing:
- Sort lots
- Assembly lots
- WaferId to Frameld Correlations
- Wafer maps
- Wafer history
- Die history
Wafer Mapping - No Problem - Or is it?

- Most wafer sort facilities can generate wafer maps
- Most assembly sites can read wafer maps
- There are ~100 different wafer map formats generated
- There are ~15 different die bonder and pick and place equipment in general use
- Potentially 1500 wafer map converters need to be developed. By who? Who pays?
- SEMI to the rescue...
Sort Map Task Force

• Chartered to develop a Sort Map Format standard

• Requirements are...

  ◆ Contains all the data supplied by wafer sort
  ◆ Supports SECS II Wafer Mapping
  ◆ Computer/Operating System Independent
  ◆ Easy to generate and reliable to read
  ◆ Flexible and Extensible
Impact of the Sort Map Format

- **One map converter per equipment**
- **Only one map converter for all equipment that supports the SECS II Wafer Mapping standard**
- **Mandatory data items reduce mis-processing**
  - NULL Bin, ORIENTATION
- **Optional data items can improve automation**
  - SUPPLIER_NAME, DEVICE, PACKAGE, FRAME_ID, LOT_ID, PROBE_DATE, STATUS, WAFER_SIZE, SCRIBE_LOCATION, X_SIZE, Y_SIZE, REF_DIES, BINS
Will Sort Map Format be Used?

- Cost savings for equipment vendors, fabs and assembly houses will be the driving force.
- Will be adopted by next generation of sort equipment (e.g. probers).
- In some cases will be offered as an upgrade for existing equipment.
- In 5 years Sort Map Format will dominate all other formats put together.
What About Other Maps?

- The Sort Map Format is intended to address all "carriers" of devices that require mapping, e.g.
  - JEDEC Tray
  - Lead frame
  - Tape Reel
  - More?
Where Can I Read More About the Sort Map Format?

- Document is still under development, so…
- E-mail dhuntley@kinesysinc.com to get on the distribution list for current and new drafts, or…
- Wait till the standard is approved and get it from SEMI
- Technical ballot is scheduled for March 2000