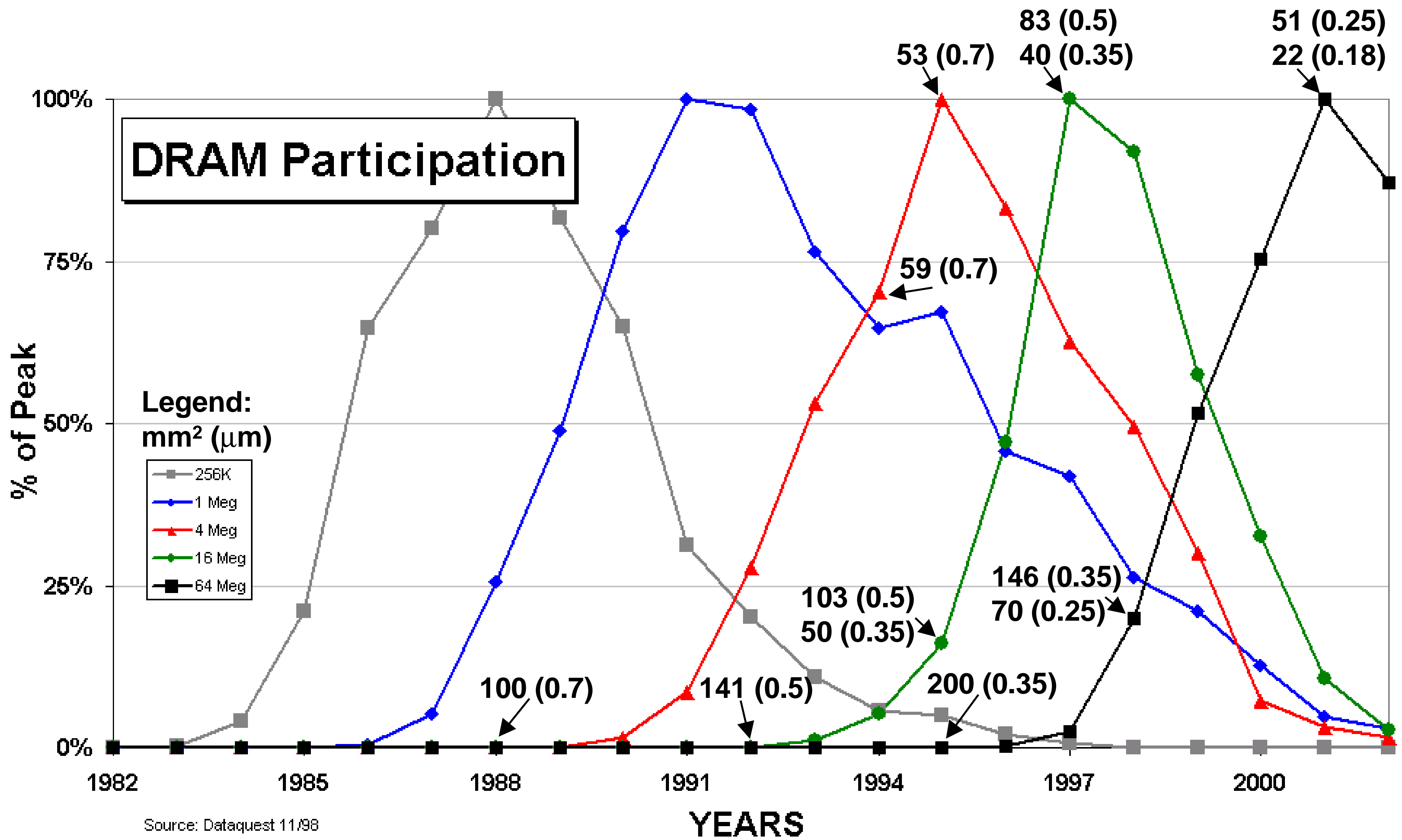
# RCG / TWG Chair Meeting
# Dallas, Texas

Bob Werner
A&P TWG Chair

January 8, 1999

# 1998 Roadmap Activity

- **Minor changes to 1997 NTRS tables**
  - DTWG input
  - 7/98 ITWG Workshop
  - NEMI product champions
- **Chaired Packaging TWG for formal NEMI update of Packaging chapter**




SEMATECH

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# 1999 Roadmap Activity

- **December 10-11, 1998, ITRS Workshop**
  - Good attendance - 4 of 5 regions
  - Very good open dialogue
  - Review and preliminary updates to all tables
- **Potential new adds**
  - RAMBUS / SLDRAM
  - High function handheld (new category)
  - Description of regional A&P technology strength and market emphasis

# Concerns

- **Memory chip size too large in NTRS 97**
- **Some chip signal pads not accessible (e.g., 2001 pad pitch 150 μm, probe pitch 200 μm)**
  - Should be addressed at design phase
- **System on chip (SOC) implications**
  - Power
  - Performance
  - Pin counts
- **Technology node acceleration impact on:**
  - Pad/pin count
  - Pad pitch
  - Power
  - Chip size

# Membership

| CONSTITUENCY | REPRESENTATIVE | AFFILIATION |
|---|---|---|
| Consortia | Bob Werner | SEMATECH (Chair) |
| | Chi-Shih Chang | SEMATECH |
| | Ron Bracken | SRC (Co-Chair) |
| | Jack Fisher | ITRI |
| Semiconductor Manufacturers | Jim Hayward | AMD |
| | TBD | Intel |
| | Ed Fulcher | LSI Logic |
| | Dave Munro | Lucent Technologies |
| | TBD | Micron |
| | TBD | Motorola |
| | TBD | TI |
| Semiconductor Suppliers OEMs | Scott Kulicke | K & S |
| | Bill Bottoms | Credence |
| | TBD | IBM |
| | Larry Gilg | MCC |
| | Bob Pfahl | Motorola / NEMI |
| | Larry Marcanti | Northern Telecom |
| Federal Agencies | Dan Radack* | DARPA (DoD) |
| | George Harman | NIST (DoD) |
| Universities | John Prince | Univ. of Arizona |
| | Peter Krusius | Cornell |
| | Rao Tummala | Georgia Tech. |
| National Labs | Dave Palmer* | Sandia |

* confirmation pending

# Summary

- On schedule to support 1/15/99 web posting
- DTWG meeting target 2/99 in Dallas
- To recruit new Taiwan  rep
- Address concerns within and between TWGs

# Assembly and Packaging

# ITWG Update

## Attendees:

Mr. Hisao Kasuga, NEC, Japan

Mr. Henry Utsunomiya, Eastern, Japan

Mr. James Mark Bird, Amkor, Korea

Mr. Hsiang-Wei Wu, FIC, Taiwan

Dr. Chi Shih Chang, SEMATECH, USA

Mr. Robert G. Werner, SEMATECH, USA

# Meeting Approach

- Review A&P section of the NTRS with international representatives
- Explain NTRS roadmap data and rationales
- Allow sufficient time for questions and answers
- Share past experience and future plans
- Identify areas of commonality and differences among roadmaps
- Agree on next steps

# Meeting Objectives

- Provide a forum for sharing roadmap information
- Gain global perspective of assembly and packaging needs

# ITWG Summary

- **Very good open dialogue on A&P needs from all regions**
  - SMT International Forum 12/9
  - AP ITWG session 12/10
- **Reviewed and updated all tables**
  - Identified additional entries (e.g. RAMBUS/SLDRAM)
  - Further feedback by 1/8/99 to meet 1/15/99 web posting
- **To facilitate global infrastructure understanding of AP needs, a section will be added on each region's AP Technology Strength and Market emphasis**
- **Gap analysis and data validation on the regional survey of products sectors and packaging technologies. Results will be shared with other consortia (e.g., IPC, Japanese consortia, TSIA…) Target 11/2000**