Semiconductor Technology Roadmap Committee of Japan (STRJ)

Presentation Outline

- STRJ approves the ITRS ‘98
- Update on STRJ organization and its members
  1) Metrology/Defect Reduction
  2) ESH
- Technology node definition
- Technology timing

Technology Node
(or simply “node”)

- **Definition**

  Level of fabrication technology represented by DRAM half pitch.

  180, 130, 100, 70, 50, 35 nm
- **Why do we need node?**

  To enhance communication among WGs with a common reference

  To make it easier for others to understand the Roadmap
- **Why do we choose 180 nm, 130 nm….?**

  Each node is 70% of the previous one

  It is assumed this 70% reduction represents a major technology step forward, which warrants an assessment.

Technology Node
Why do we call it “node”?

- **Technology node is different from product generation**

  “Technology generation” and “product generation” had been used interchangeably

  In the past, this was true for DRAMs, when the two matched.

  However, they no longer match directly.

  To clarify this point, it is better not to use “generation.”

- **Technology node is different from design rules**

  Design rules often refer to a 90 - 80% shrink.

  To clarify this point, it is better not to use “design rules.”

Technology Timing

- **Technology timing has to be rational**

  It will be a good target to be met or even to be obsoleted.
- **For 130 and 100 nm nodes, Lithography is critical**

  “Mask” may be the most critical.

  Expecting informative discussions at ITWG meeting.

STRJ Organization

99.04.12 @3rd ITRS

EIAJ

IC Executive Committee (chair: T. Tsuchimoto)

Semiconductor Technology Roadmap Committee of Japan

STRJ (chair: A. Morino*)

	chair:	ITWG members:
IRC		M. Iiri*, T. Fukushima*
Work Group 1 (Design)	Y. Furui	Y. Furui, T. Hiwatashi*
Work Group 2 (Test)	T. Aikyo*	K. Hatayama*, T. Onodera
Work Group 3 (FEP)	S. Kawamura	S. Kawamura*, M. Niwa
Work Group 4 (Intercon)	S. Nishihara	R. Aoki*, S. Ogawa
Work Group 5 (Litho.)	A. Ishitani	A. Ishitani*, T. Takigawa
Work Group 6 (PIDS)	N. Endo	N. Endo*, M. Yoshimi
Work Group 7 (A&P)	M. Tanimoto	H. Kasuga*, H.H. Utsunomiya
Work Group 8 (FI)	S. Kodama	M. Honma*, J. Sato
Work Group 9 (ESH)	**O. Anzai**	O. Anzai*, **J. Aoyama**
Work Group 10 (M&S)	N. Kotani	N. Kotani, K. Nishi*
Work Group 11 (Met.& DR)	**F. Mizuno**	**F. Mizuno*, T. Osada***
Secretary	H. Mayumi*, H. Nishizuka*, A. Shinohara*	

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