

**INTERNATIONAL TECHNOLOGY ROADMAP FOR SEMICONDUCTORS (ITRS) MEETING
APRIL 12-13
MUNICH, GERMANY**

KEY MESSAGES

The 1998 Update was approved by all regions. It will be posted to the public web site.

It is recognized that the Roadmap indicates the most aggressive requirements by leading manufacturers. It is used by suppliers to support new capabilities. It helps researchers determine where innovation is needed and when.

Product generations and technology nodes are now recognized as different.

A evolution of the Roadmap from linear scaling to equivalent scaling, integrated solutions, and new device structures was presented. Beyond 100 nm is determined to be a challenge for all technologies.

The Die Size sub-committee proposed a constant die size for consideration among the IRC and ITWGs. Effect on packaging, lithography, and wafer size, as well as productivity gains from shrinks are considerations.

Cross-functional meetings were held among most of the ITWGs, resulting in good communication of concerns and action items.

Technology node/Roadmap timing was proposed to be presented annually from 1999 through 2005 and then at 3-year nodes until 2014. DRAM ½ Pitch still defines the “technology node years” highlighted in the Roadmap. Any of these four rows may be indicated as a “Driver” for any specific row in a TWG Technology Requirements table to help simplify timing adjustments if there are future time changes in that ORTC “Driver” row.

SHORT TERM YEARS

YEAR OF INTRODUCTION “TECHNOLOGY NODE”	1999 180 nm	2000	2001	2002 130 nm	2003	2004	2005 100 nm	DRIVER
DRAM ½ PITCH (nm)	180	165	150	130	120	110	100	D ½
MPU GATE LENGTH (nm)	140	120	100	85	80	70	65	M GATE
MPU / ASIC ½ PITCH (nm)	230	210	180	160	145	130	115	M & A ½
ASIC GATE LENGTH (nm)	180	165	150	130	120	110	100	A GATE

LONG TERM YEARS

YEAR OF INTRODUCTION “TECHNOLOGY NODE”	2008 70 nm	2011 50 nm	2014 35 nm	DRIVER
DRAM ½ PITCH (nm)	70	50	35	D ½
MPU GATE LENGTH (nm)	45	32	22	M GATE
MPU / ASIC ½ PITCH (nm)	80	55	40	M & A ½
ASIC GATE LENGTH (nm)	70	50	35	A GATE

Based on the proposals for timing and on short term / long term technology requirements, a new format for the 1999 document will be sent to all ITWGs. The publication schedule was presented—key dates are indicated for Draft review, 1999 Roadmap approval by advisory boards, and distribution.

The IRC editorial-committee was formed for the 1999 ITRS publication:

- Wolfgang Arden
- Genda Hu
- Bob Doering
- Masahiro Iiri

A System on a chip (SOC) sub-committee will be formed to assess the requirements for SOCs. Design will take the leadership, with participation from PIDS, Interconnect, Test, Assembly and Packaging.

All ITWGs presented key messages and issues with respect to their groups. Most presentations have been posted, with the remaining to be available once received.