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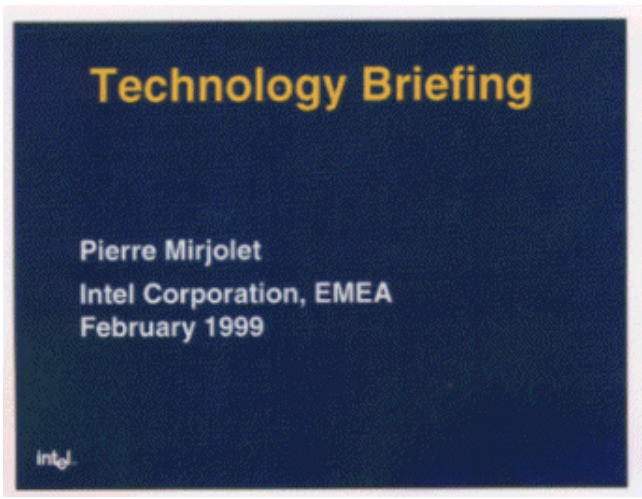
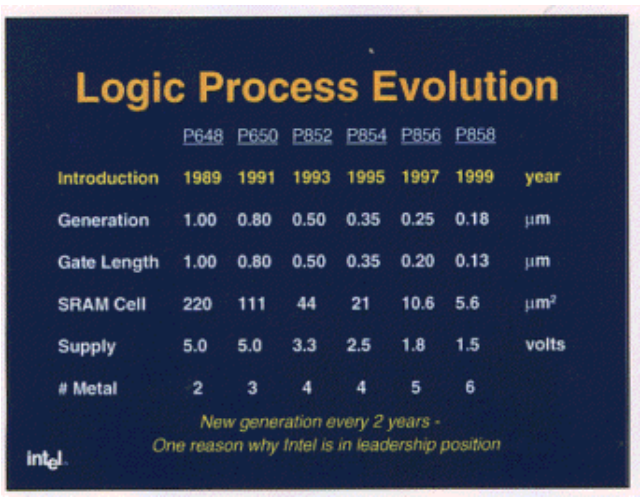
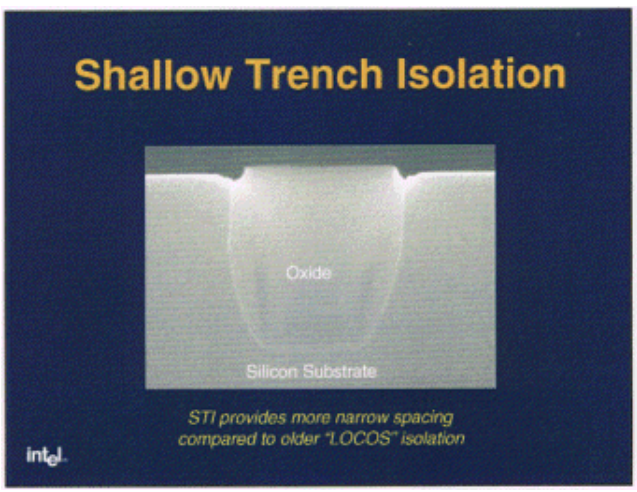
Posted 13/02/99 11:44am by Mike Magee

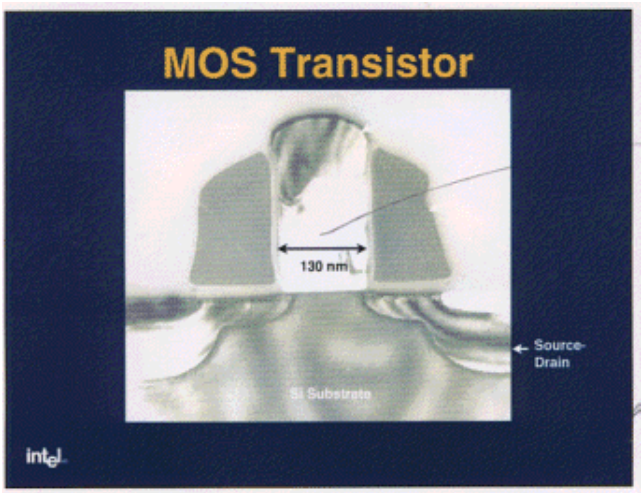
Why Intel's .18 micron tech is really .13 micron

View these slides in association with Intel confuses world+dog over .18 micron









P858 Transistor Features

- Shallow trench isolation
- Industry leading 3.0 nm gate oxide
- 0.13 µm minimum gate dimension
- Low resistance silicide layer
- 1.1-1.5 V operation

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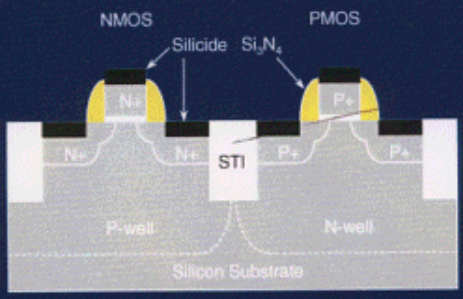
Transistor Structures



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0.18µm Transistor Comparisons

1.5V, 1 nA/µm I_{OFF}	Gate Oxide Thickness	Transistor Current NMOS	PMOS
Intel	3.0	850	380
Company A (1998 IEDM, p. 623)	3.4	750	360
Company B (1998 IEDM, p. 627)	3.6	720	350
Company C (1998 IEDM, p. 1013)	3.9	700	320
	nm	µA/µm	µA/µm

Intel leads industry in gate oxide thickness and transistor current
Higher transistor current = faster circuits

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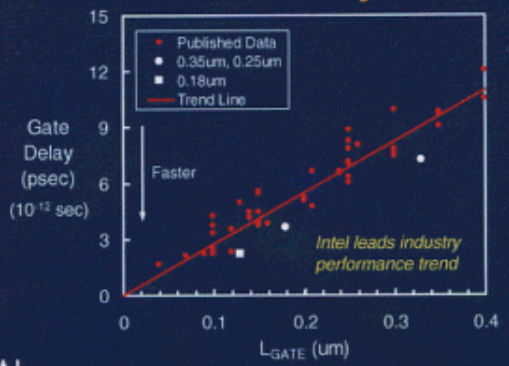
Transistor Delay Trend



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