

Pendulum Swinging to Standardization

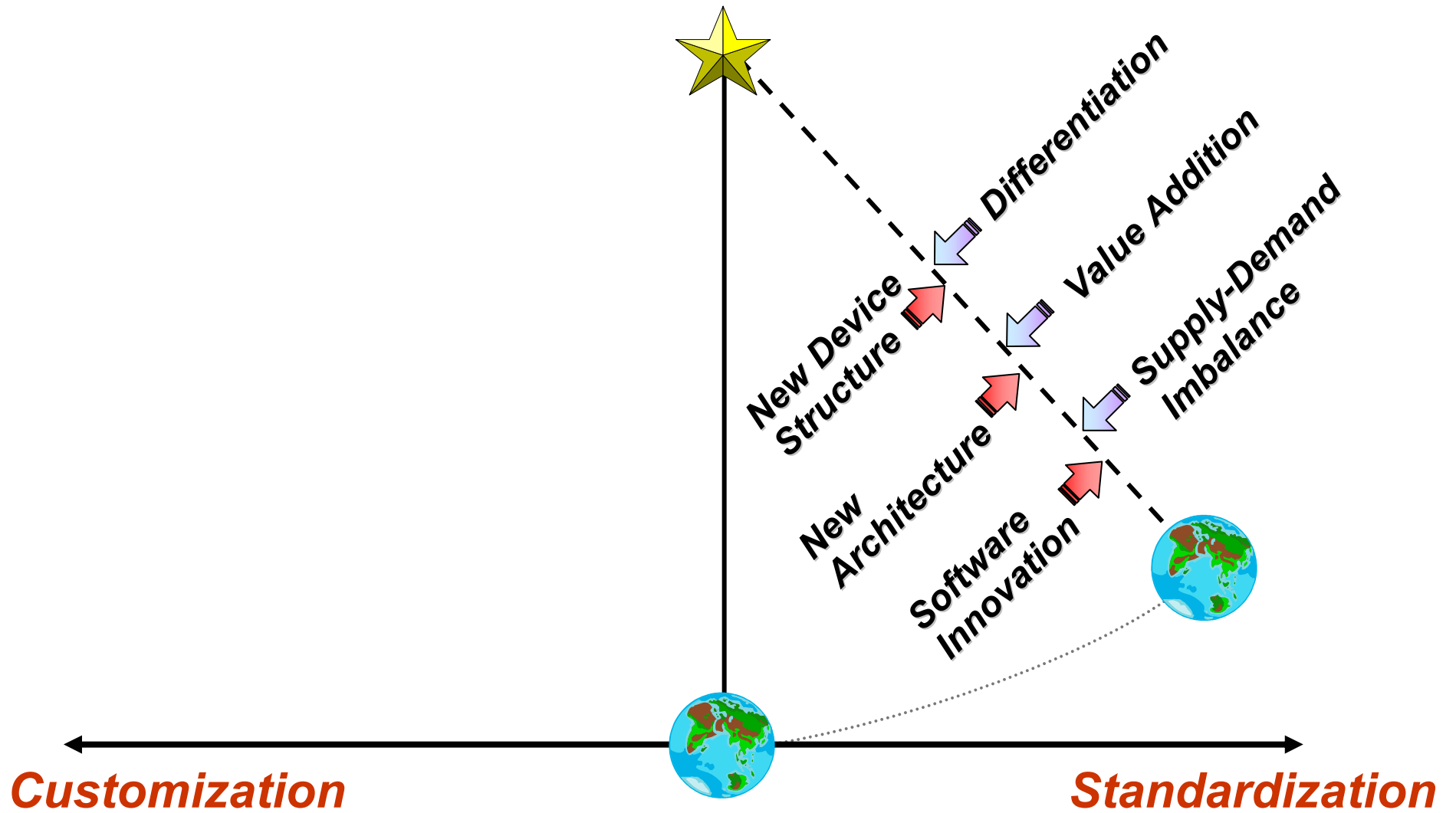


Figure 1

Pendulum Swinging to Customization

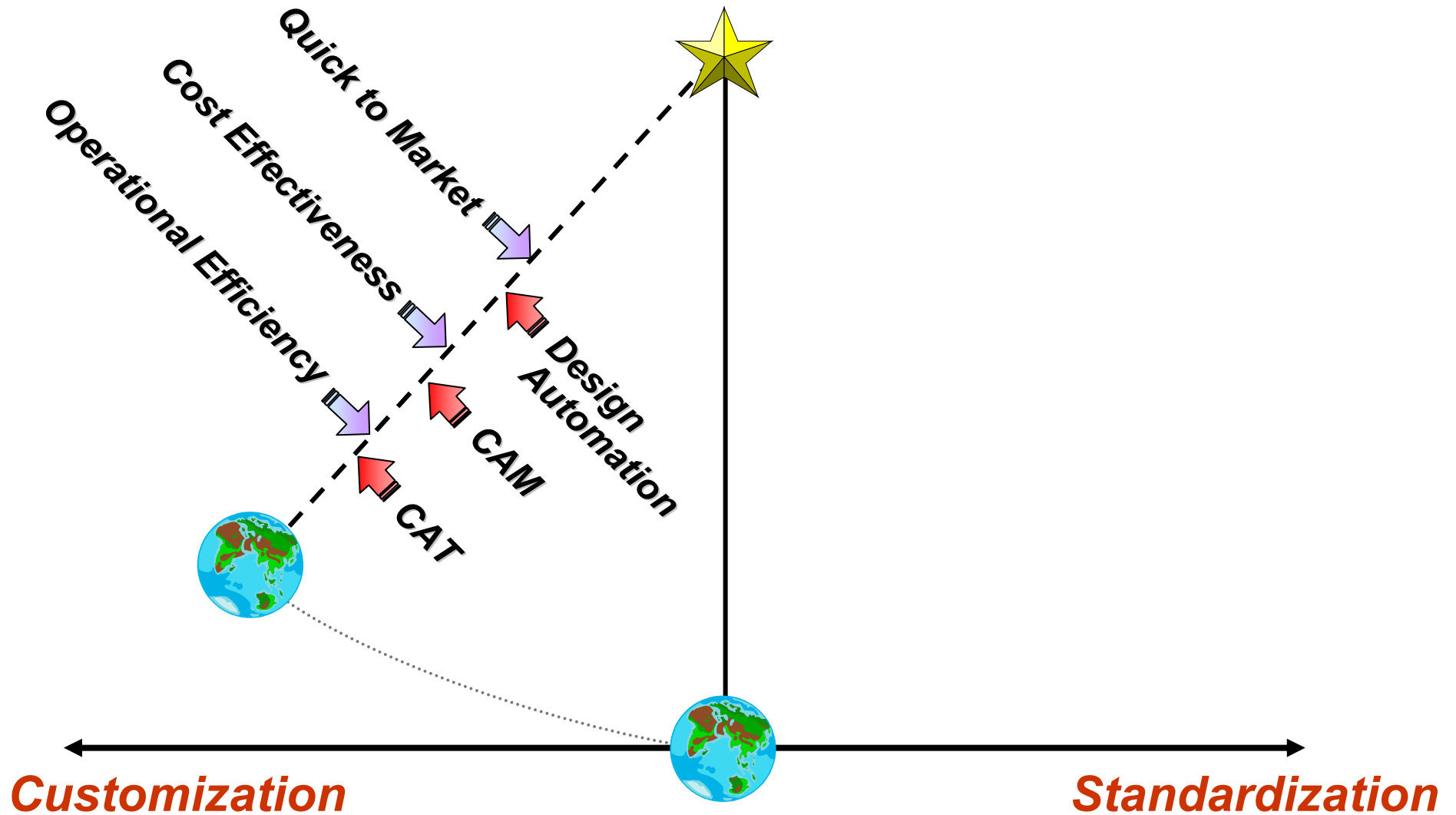
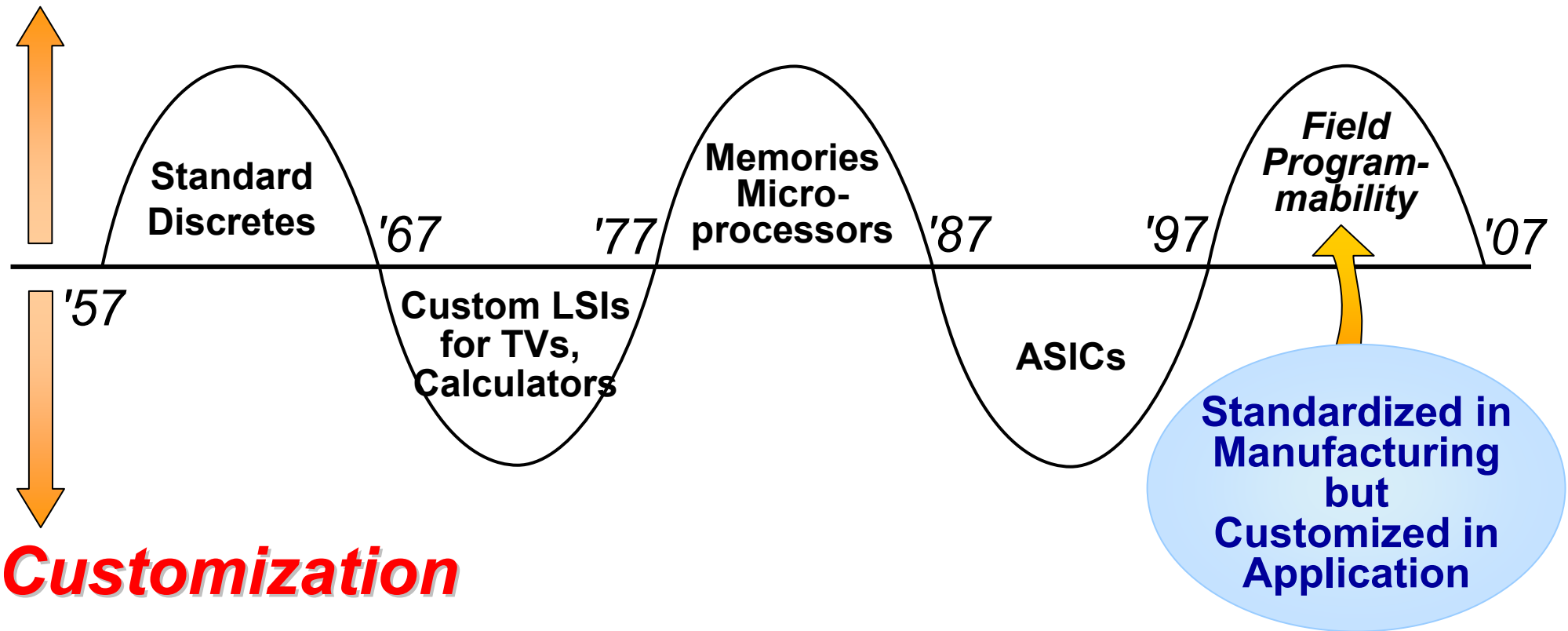


Figure 2

Makimoto's Wave

Standardization



Source: Electronics Weekly, Jan. 1991

Figure 3

Dramatic Change in Product Life Cycle

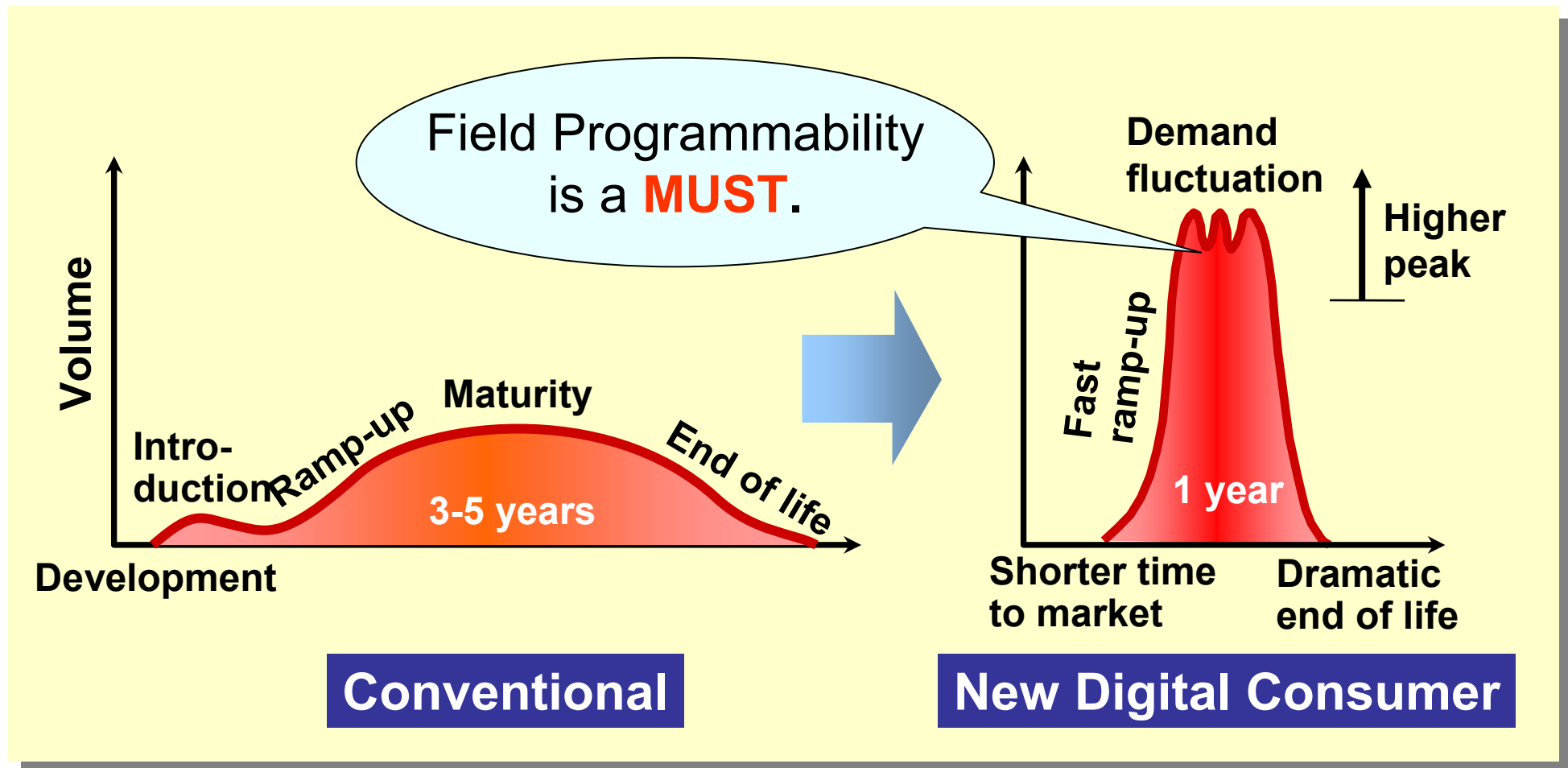
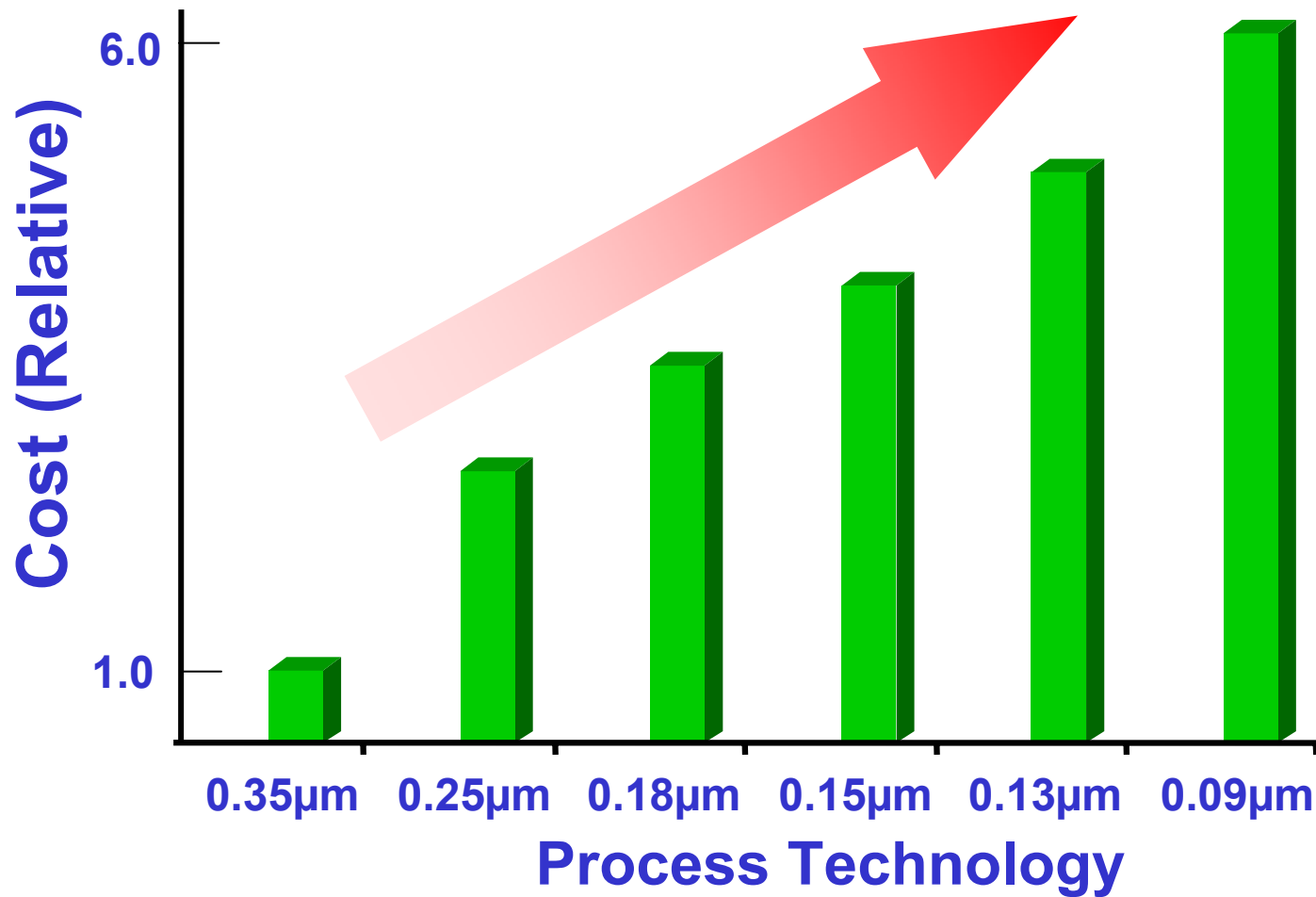


Figure 4

Rising Cost of “First Silicon”



Source: Altera Corporation

Figure 5

Ballpark Figures of Crossover Points — ASIC vs FPGA —

		1995	2000	2005
Quantity	K pcs	50	100	300
Density	K gates	50	100	300
Frequency	MHz	50	100	300

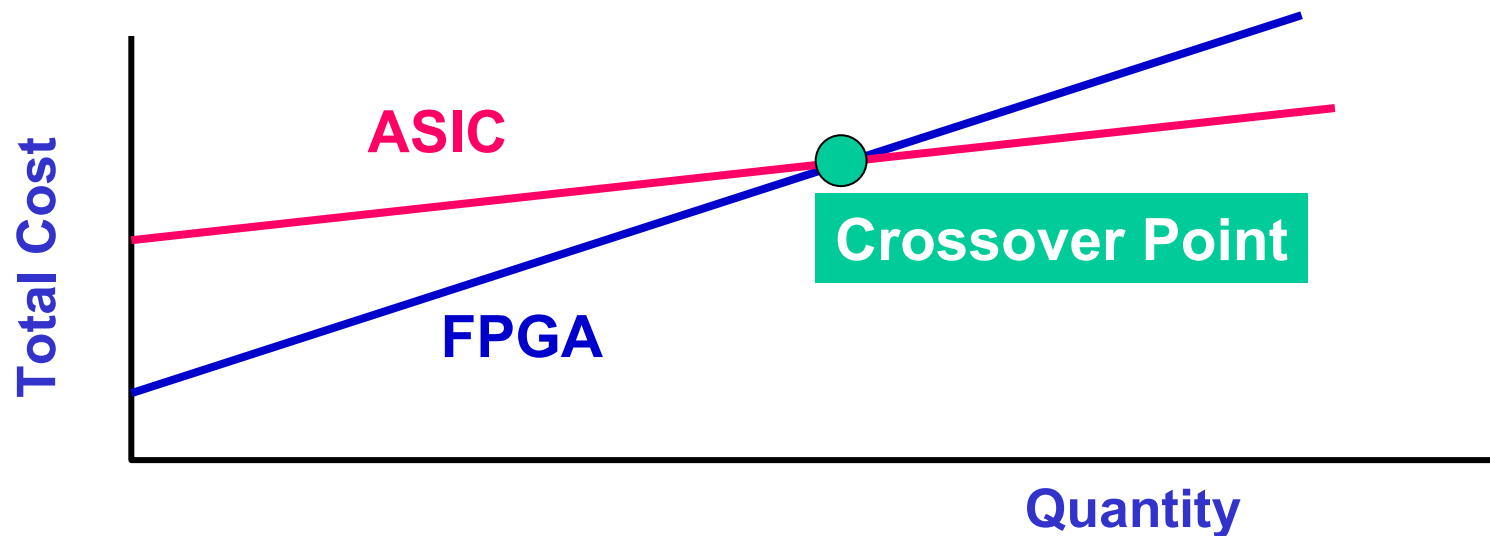


Figure 6

Emerging NV-RAM Technologies

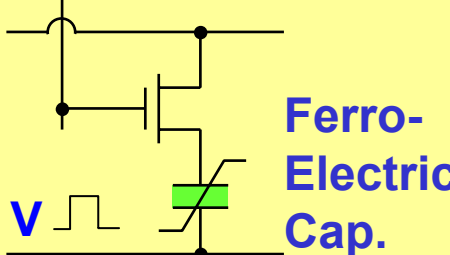
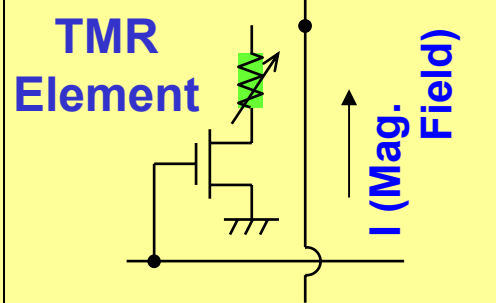
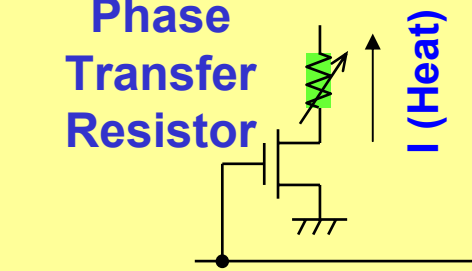
Types	FeRAM	MRAM	OUM (Ovonic Unified Memory)
Principles	 <p style="text-align: right;">Ferro-Electric Cap.</p> <p>Hysteresis of Polarization</p>	 <p>TMR Element</p> <p>Hysteresis of Magnetic Resistance</p>	 <p>Phase Transfer Resistor</p> <p>Hysteresis of Resistance</p>
Features	Low Power & High Endurance	High Speed & High Endurance	Low Cost
Status	MP: 256Kb 4Mb('03/1Q) Dvlp: 64Mb	MP : Non Dvlp: 4Mb	MP : Non Dvlp: 4Mb

Figure 7

Sony's "Virtual Mobile Engine™"

World's First Dynamic Reconfigurable Engine optimized for Consumer Products

Chip Configuration	One CPU with Embedded "Virtual Mobile Engine™"
Decoding Power Dissipation for ATRAC3*	Ultra Low Power: 4mW (less than 1/4 compared to DSP)
Feature	Programmable

*Audio Format

New Network Walkman
Featuring
Compact size and
Long Battery Life

(W:36.4mm,H:48.5mm,
t:18.0mm)



Product: NW-MS70D

Figure 8

What will come after FPL?

Standardization

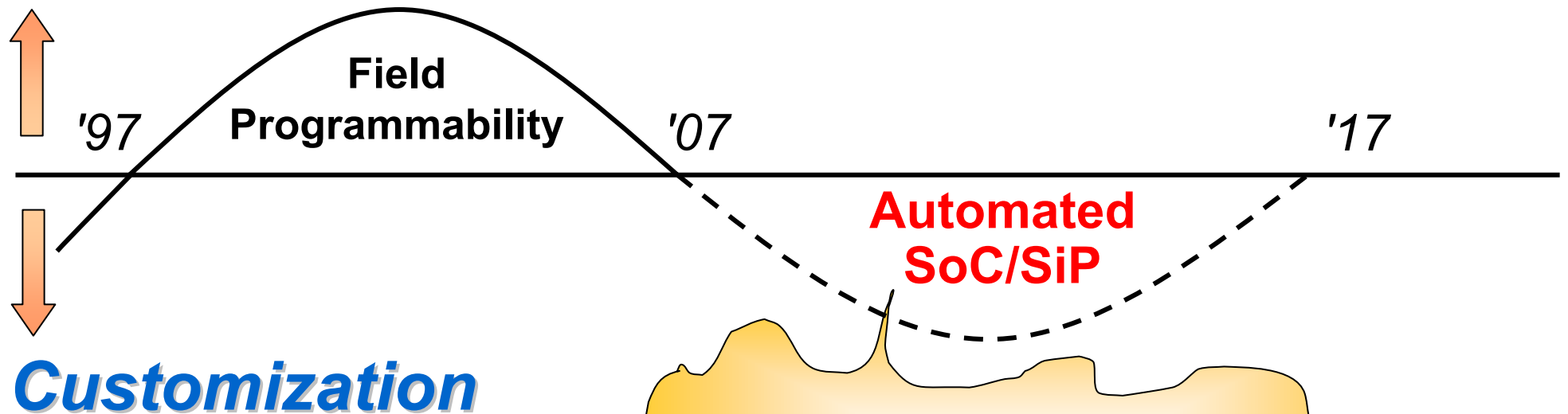


Figure 9

Second Wave of Digital Revolution

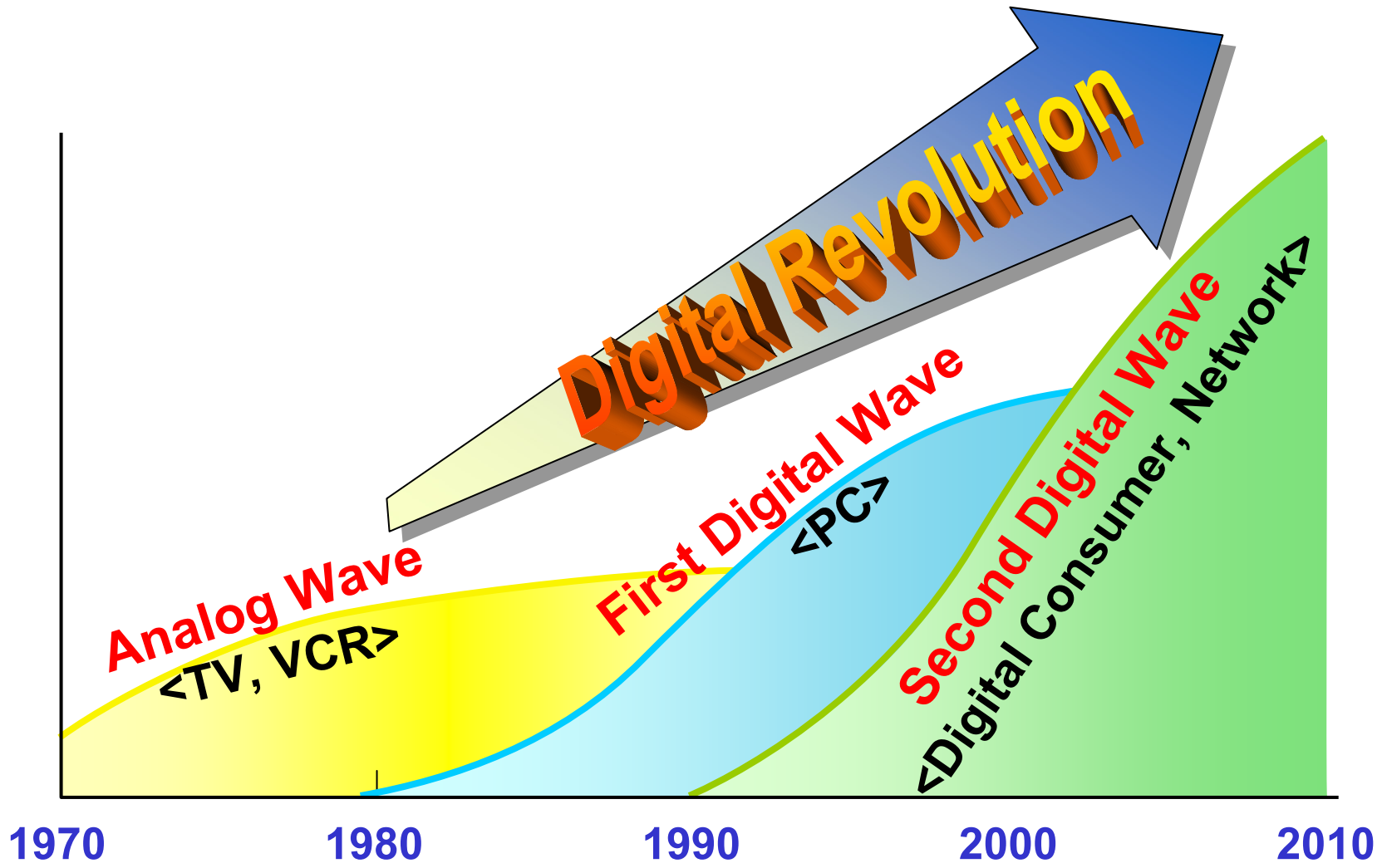


Figure 10