

nuvoTon

开放架构对MCU生态之影响

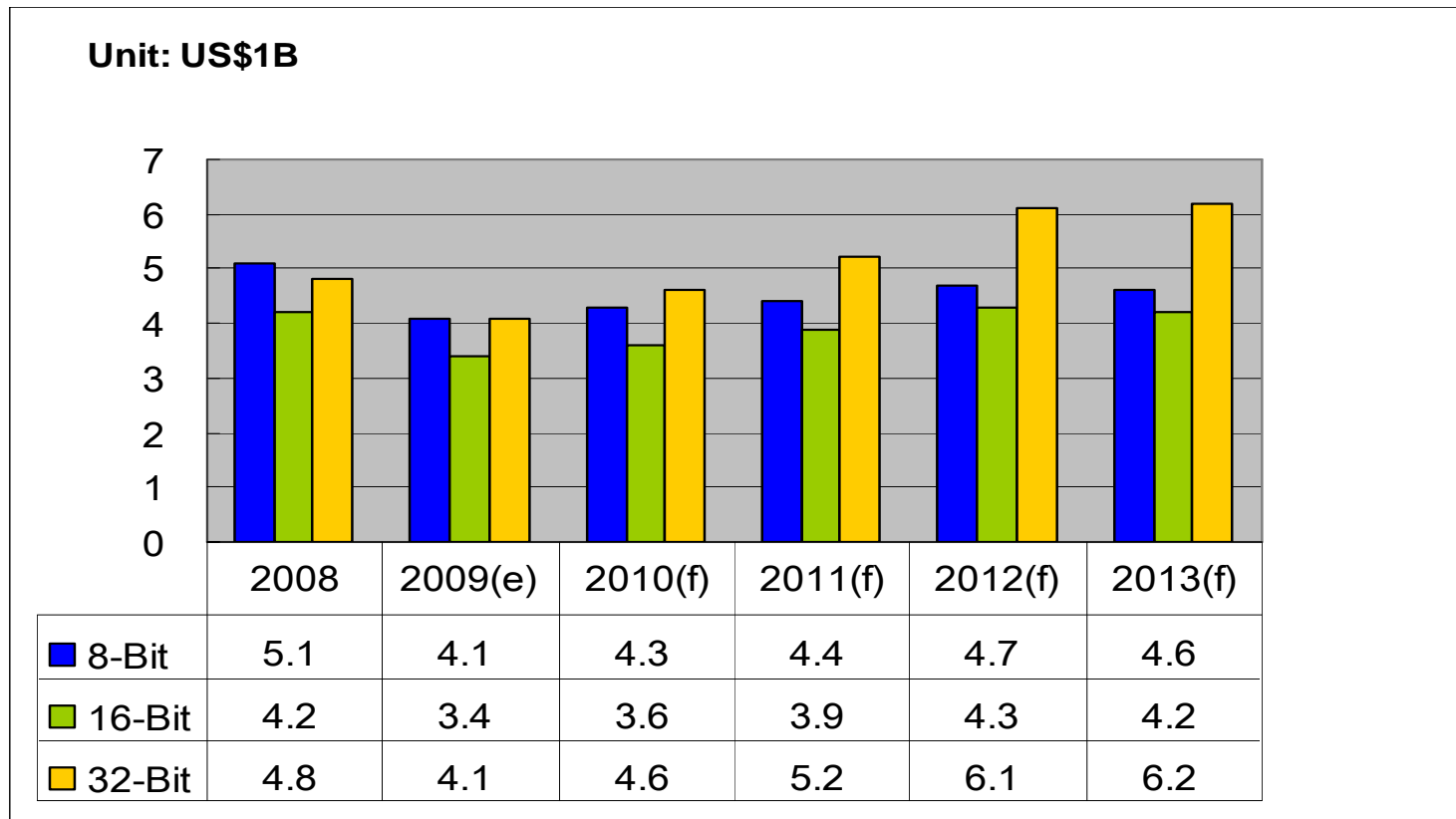
黃瑞明

新唐科技

嵌入式系统联谊会

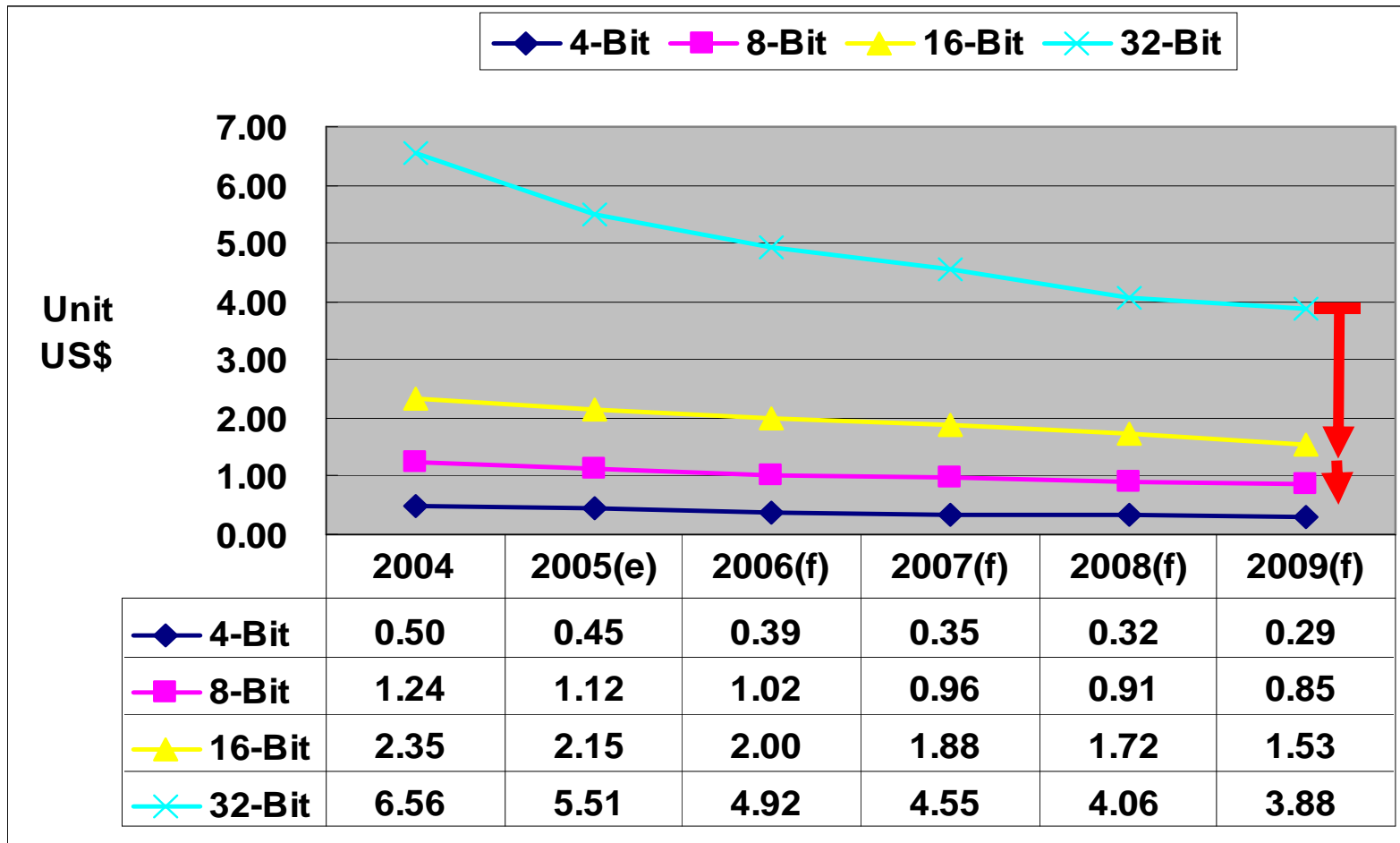
www.esbf.org.cn

MCU TAM



Source from IC Insights , DIGITIMES arrangement , 2009/12

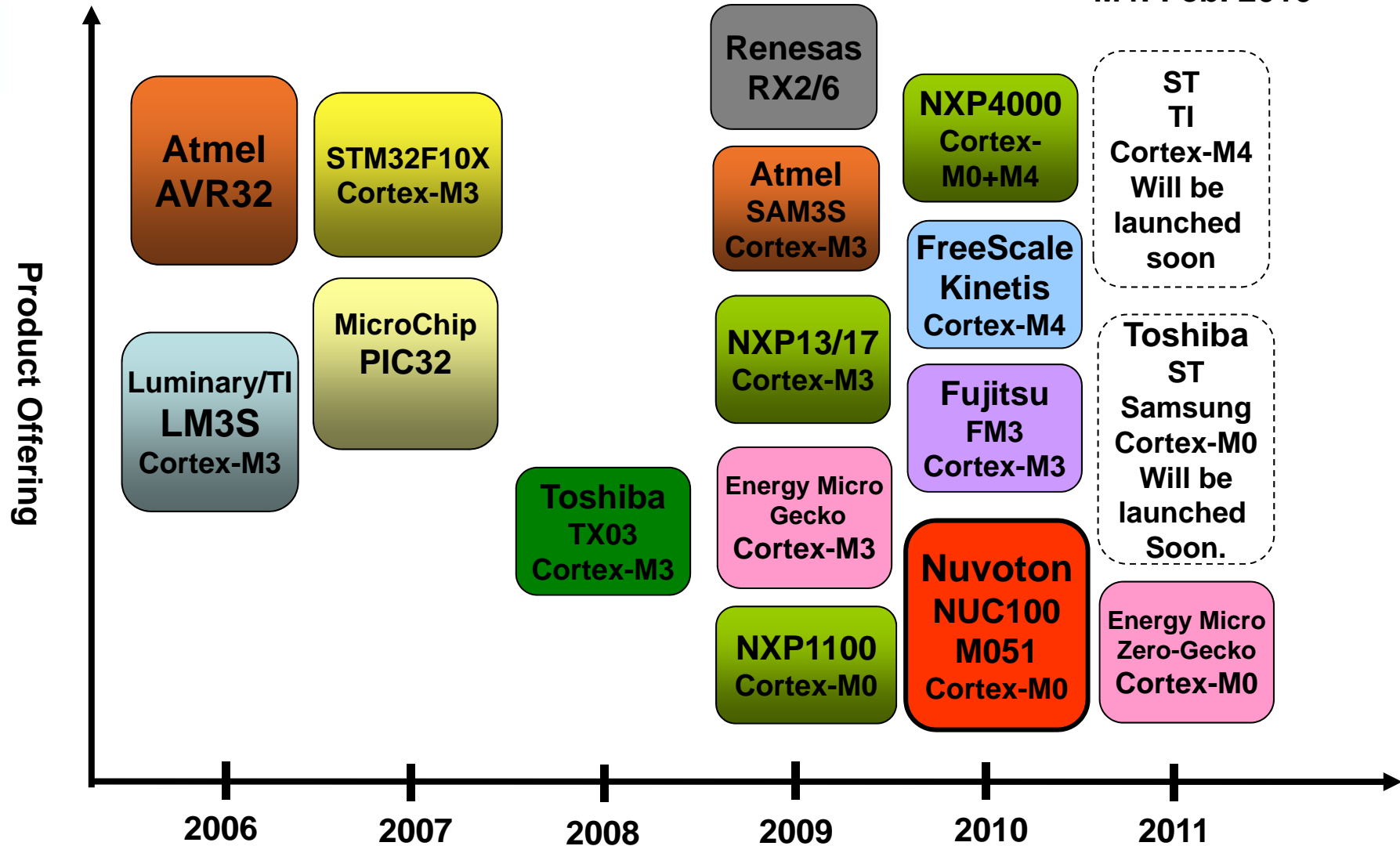
MCU ASP Forecast in 2005



Source from In-Stat ; ITRI IEK(2005/12)

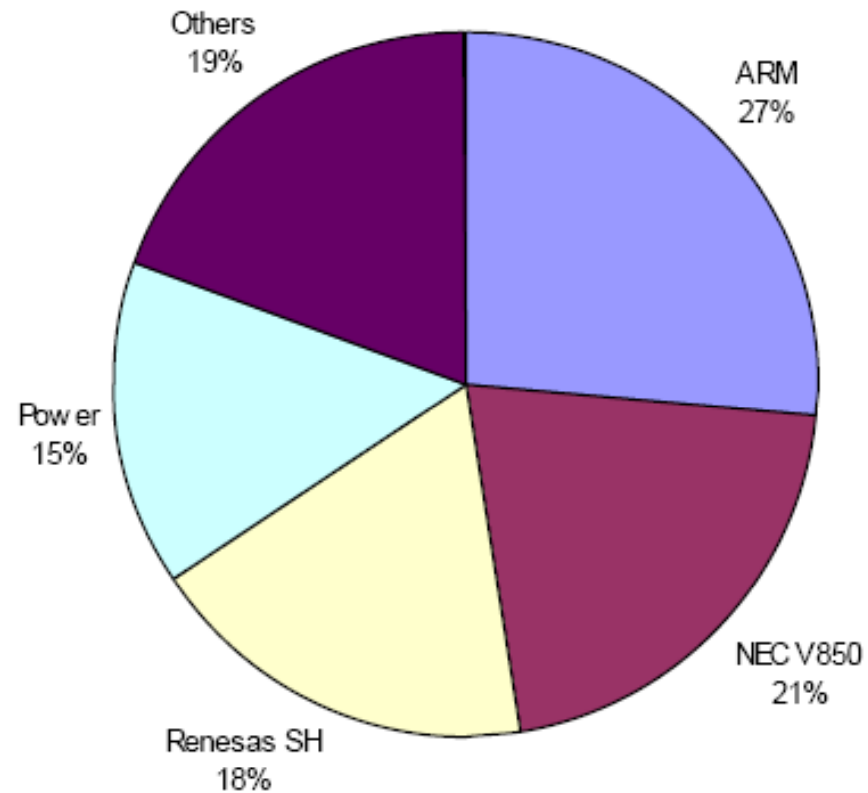
MCU Offering & 32-bit Launch Date

Core Launch Date
 M3: Oct. 2004
 M0: Feb. 2009
 M4: Feb. 2010



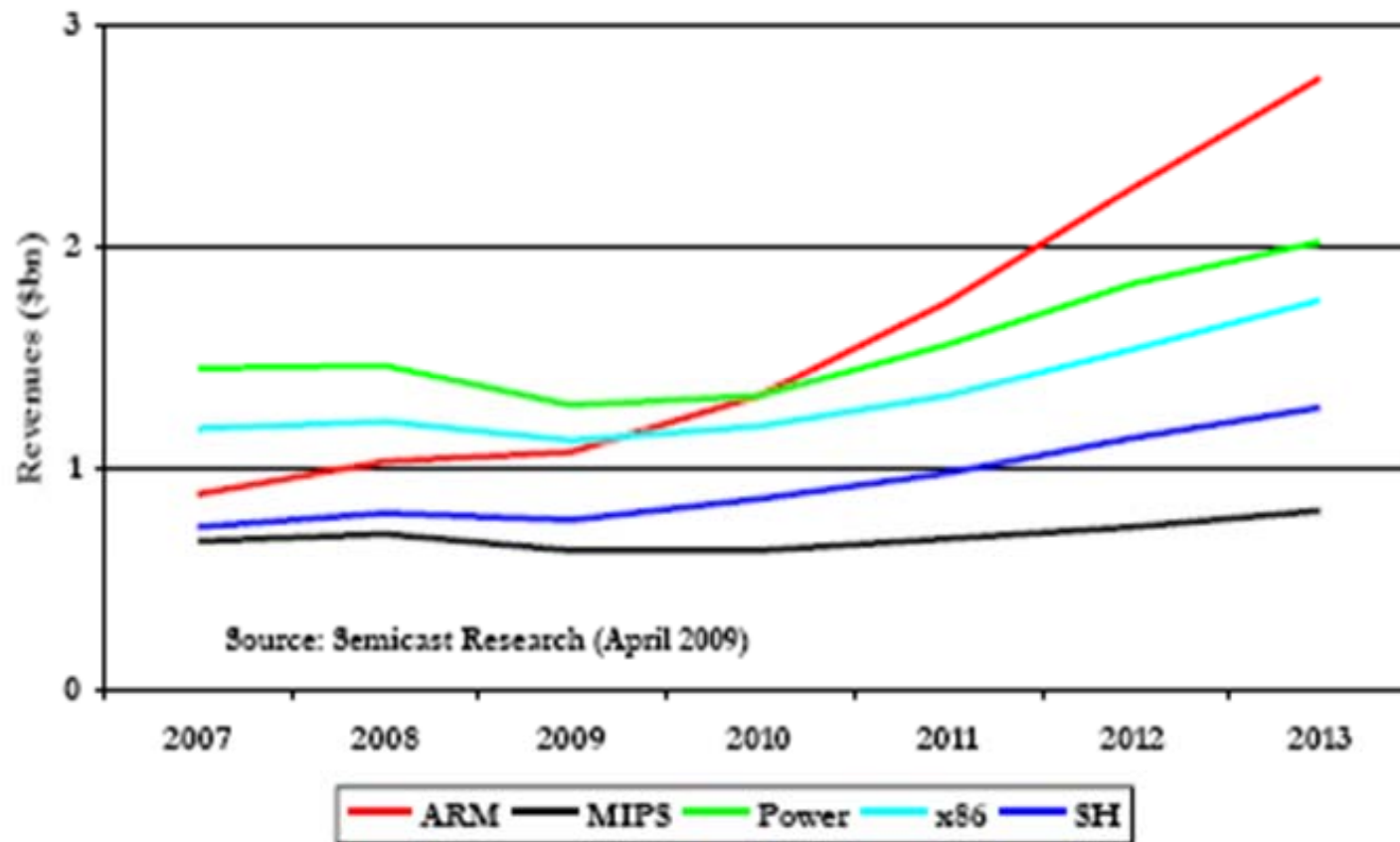
* The product launch dates were collected from News Release of each company, it is just for reference.

32-bit MCU Market Share in 2008

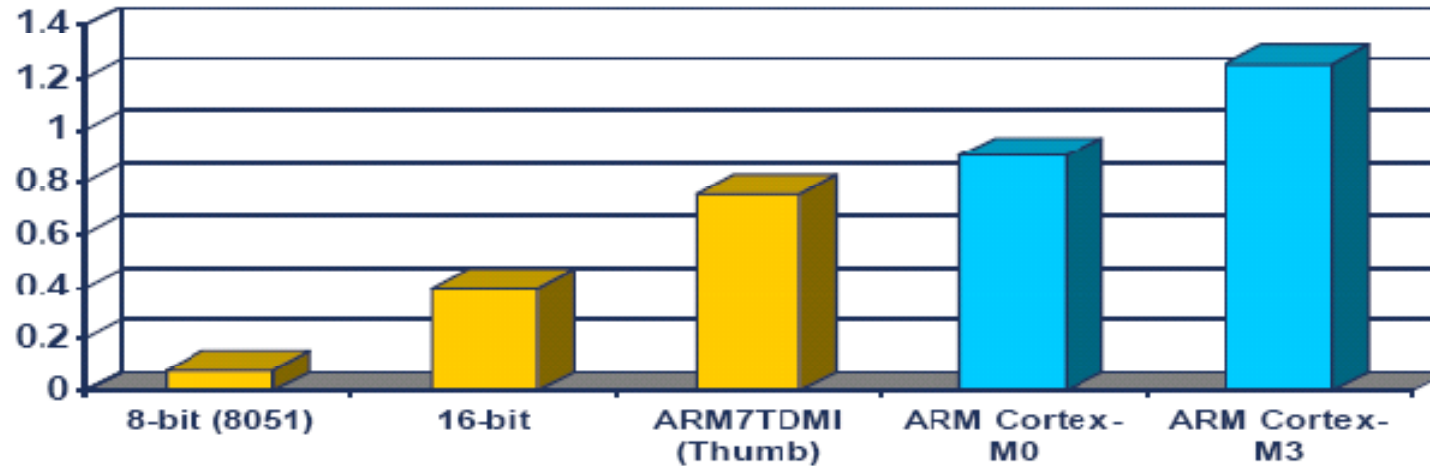


Source: Gartner, Inc. "Competitive Landscape: Microcontroller Semiconductors, Worldwide, 2009" by Amy Leong, July 7, 2009.

32/64-bit Microcontroller & Embedded Microprocessor Market Forecast



Comparisons



	ARM7TDMI	Cortex-M0	Cortex-M3	Comment
DMIPS/MHz (Dhrystone)	0.75 (Thumb) 0.95 (ARM)	0.9	1.25	
Gate count	45k	12k	43k	
Number Interrupts	2	1~32 + NMI	1~240 + NMI	
Interrupt Priorities	None	4	8 ~ 256	
Breakpoints, Watchpoints	2/0	4/2, 2/1	8/4, 2/1	
MPU, integrated trace option	No	No	Yes	
Hardware Divide	No	No	Yes	
NVIC, SysTick & Memory Map defined	No	Yes	Yes	Standardized
Power Management	No	Yes	Yes	
Interrupt Latency	24 ~ 42 Cycles	16 Cycles	12 Cycles	Interrupt latency can be guaranteed

中国单片机市场的走向

- ▶ 三十二位逐步取代八位与十六位单片机
- ▶ 指令兼容于各家的平台
- ▶ 成熟开发環境