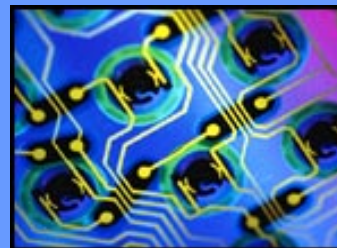


Outlook for CMP Consumables

- ◆ **Gil Yang**

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gil.yang@ssmb.com**



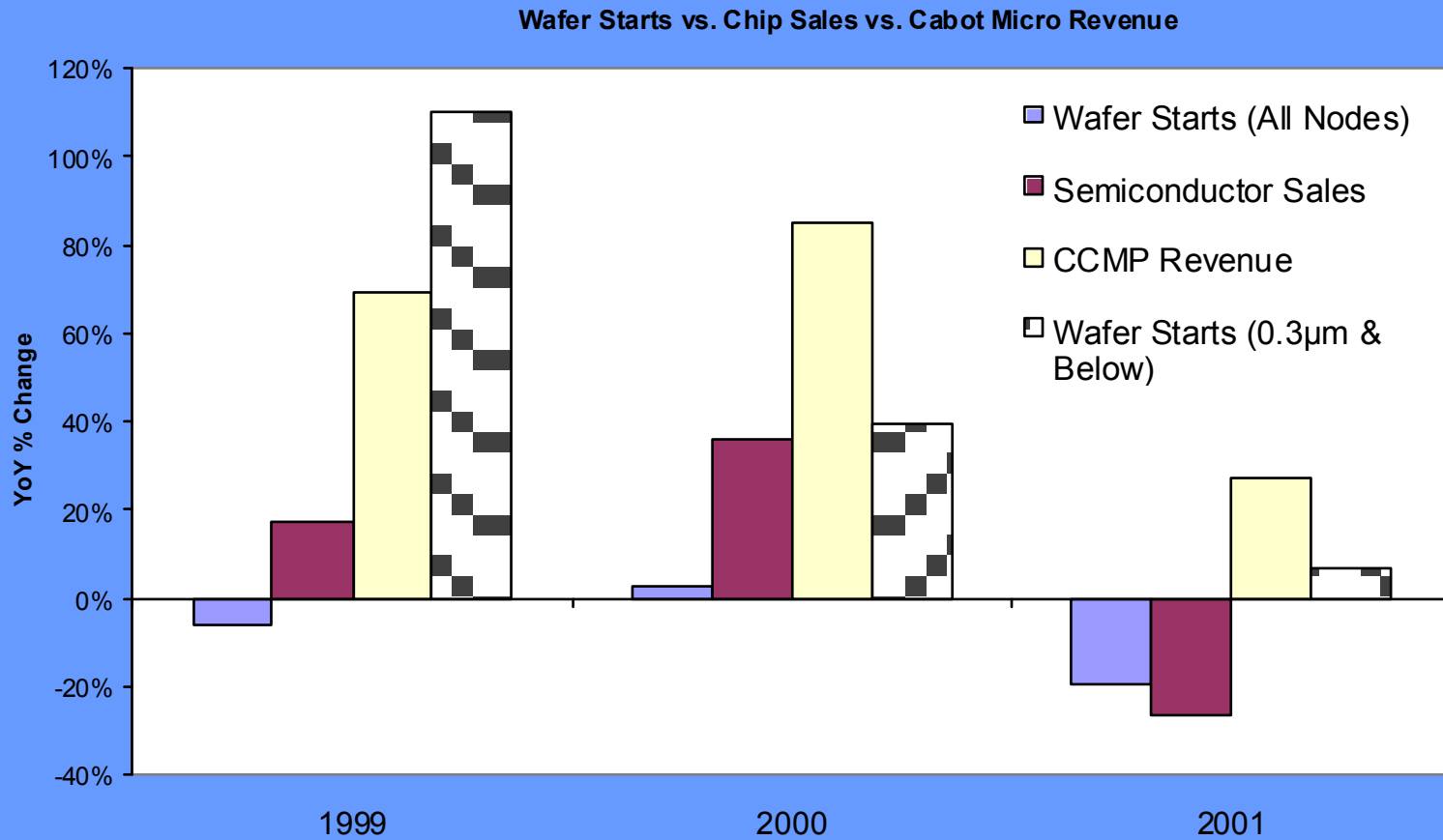
- ◆ **March 6, 2002**



Semiconductor Industry Status

- ◆ In 2001 the Semiconductor Industry was negatively affected by three major factors:
 - » Excess Inventory
 - » Economic Slowdown
 - » Overcapacity

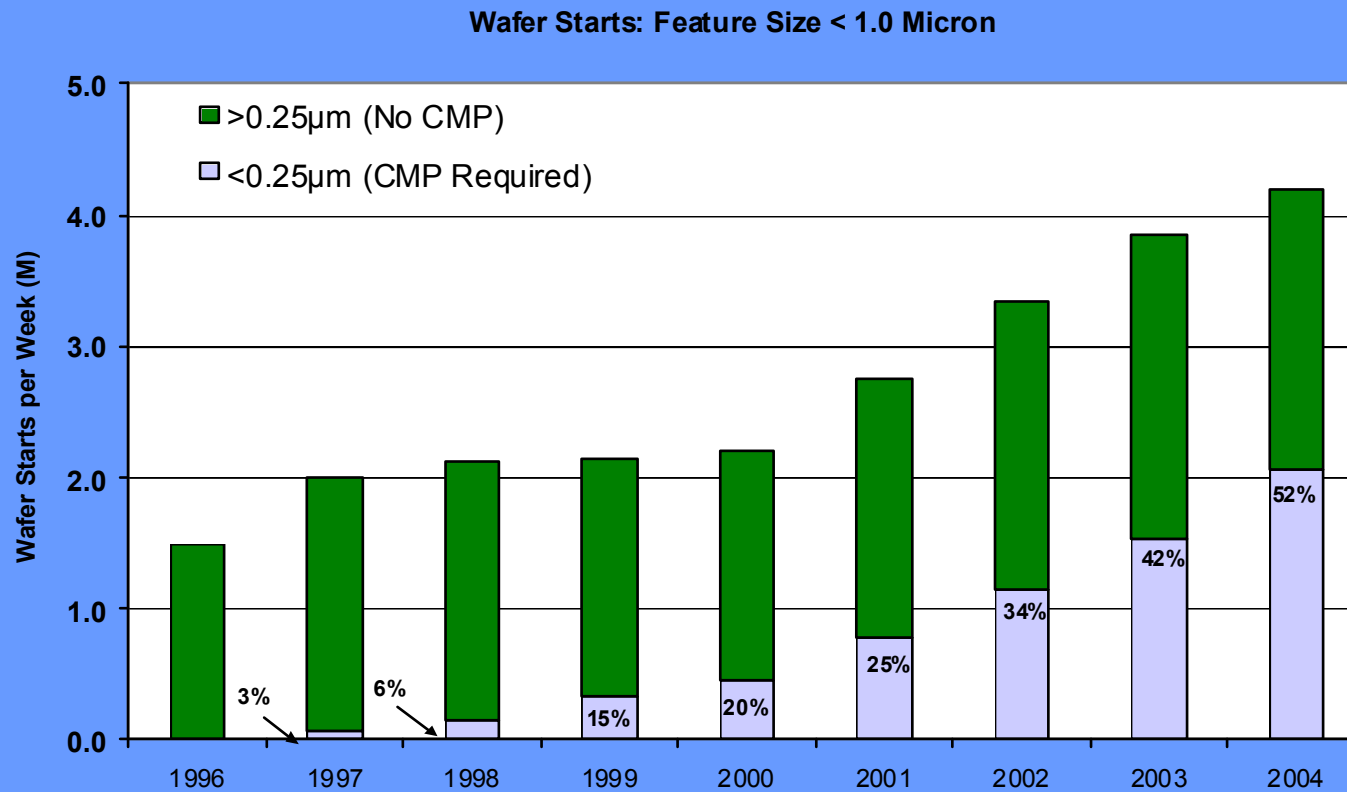
Chip Volumes & Sales



Advanced Technologies Remain Strong

- ◆ Demand for advanced IC devices (0.25 μ m & below) has remained strong
- ◆ In addition, advanced technologies are becoming an increasing percentage of chips produced
- ◆ This trend is expected to continue

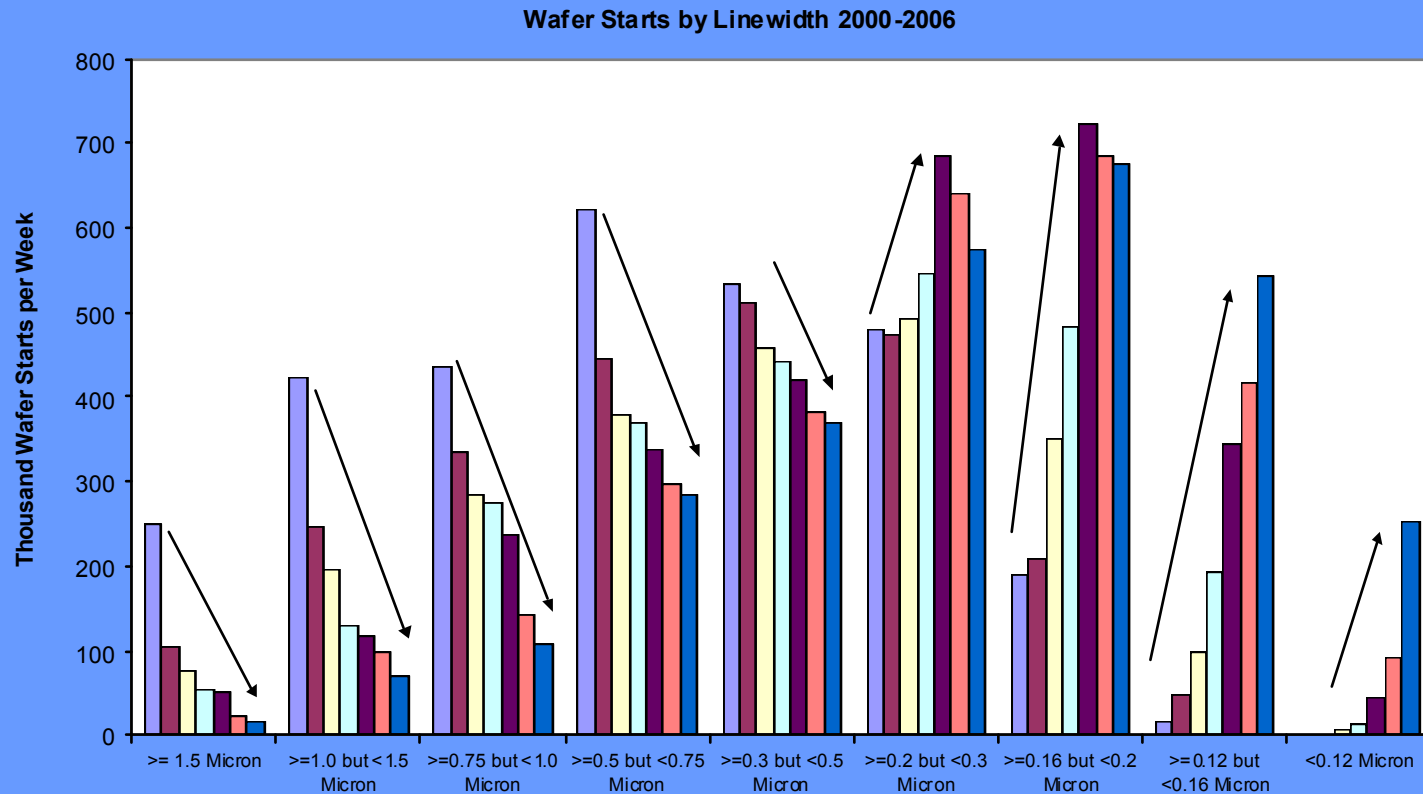
CMP Technology Adoption



Source: VLSI Research

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Wafer Starts by Linewidth 2000 thru 2006

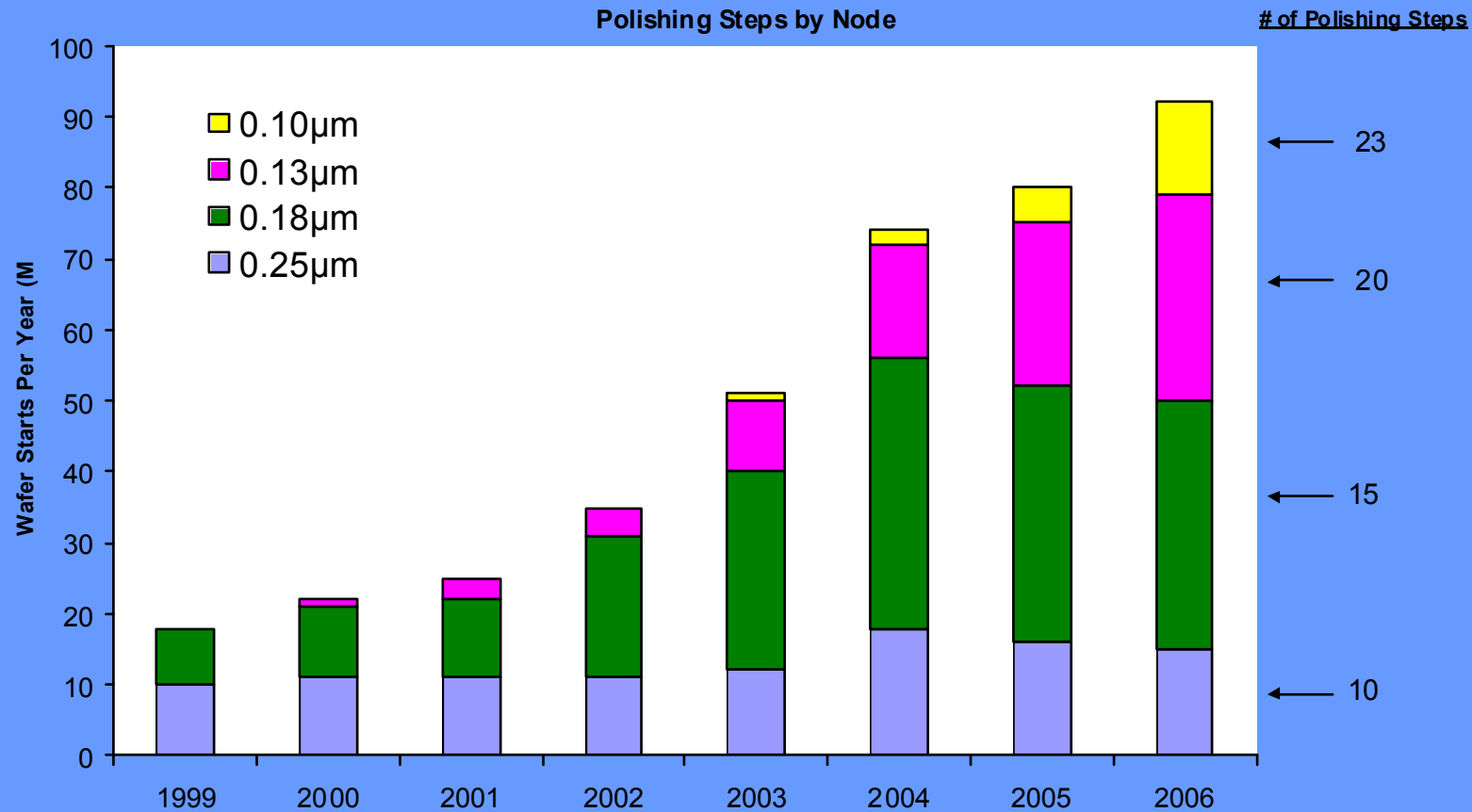


Source: VLSI Research

Requires CMP

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Shrinking Linewidths = Increasing # of Polishing Steps



Source: VLSI Research

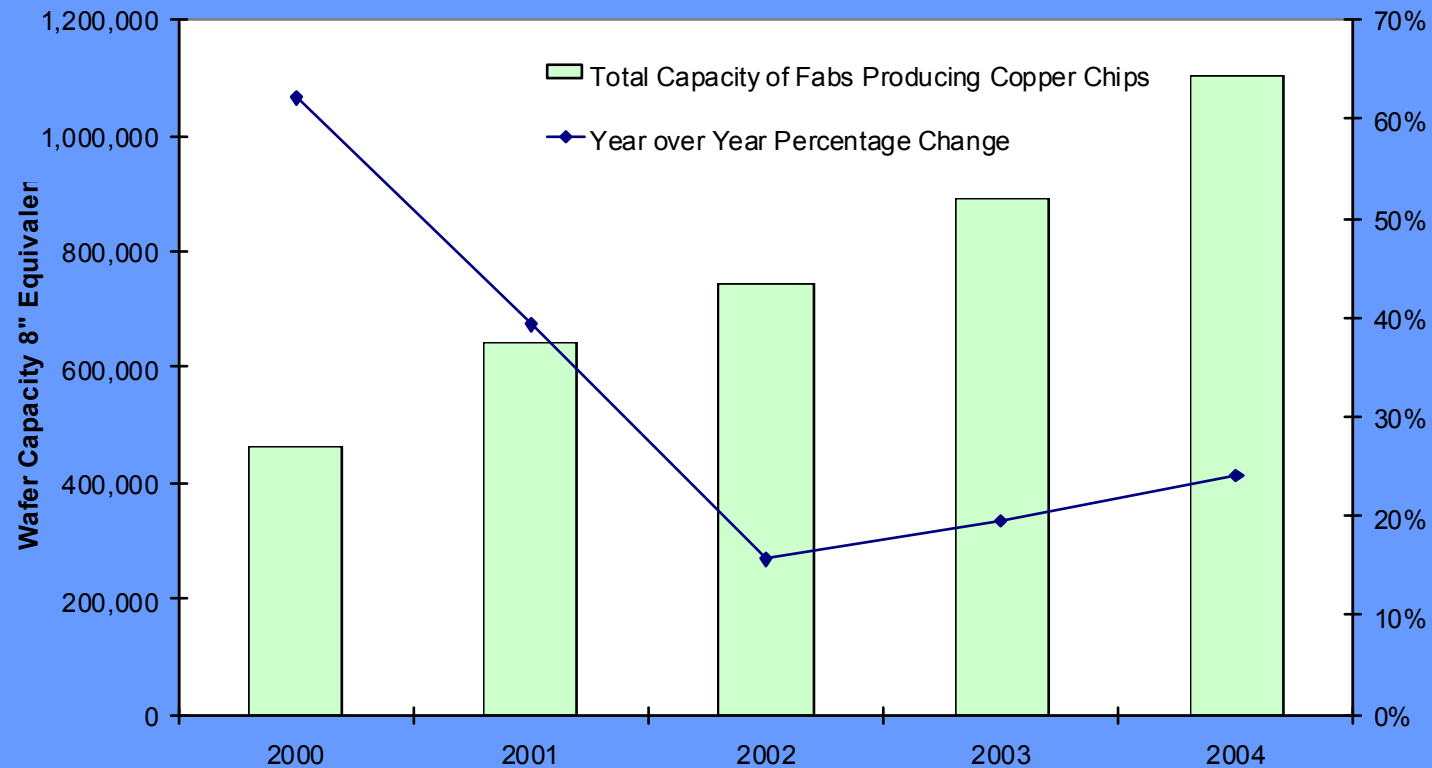
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Copper Chip Capacity Growth

- ◆ Currently ~4 fabs are producing copper chips at capacity
- ◆ Twenty fabs are ramping with ten in pilot production
- ◆ By 2003 30-35 fabs producing copper chips should be at capacity

Copper Capacity Growth

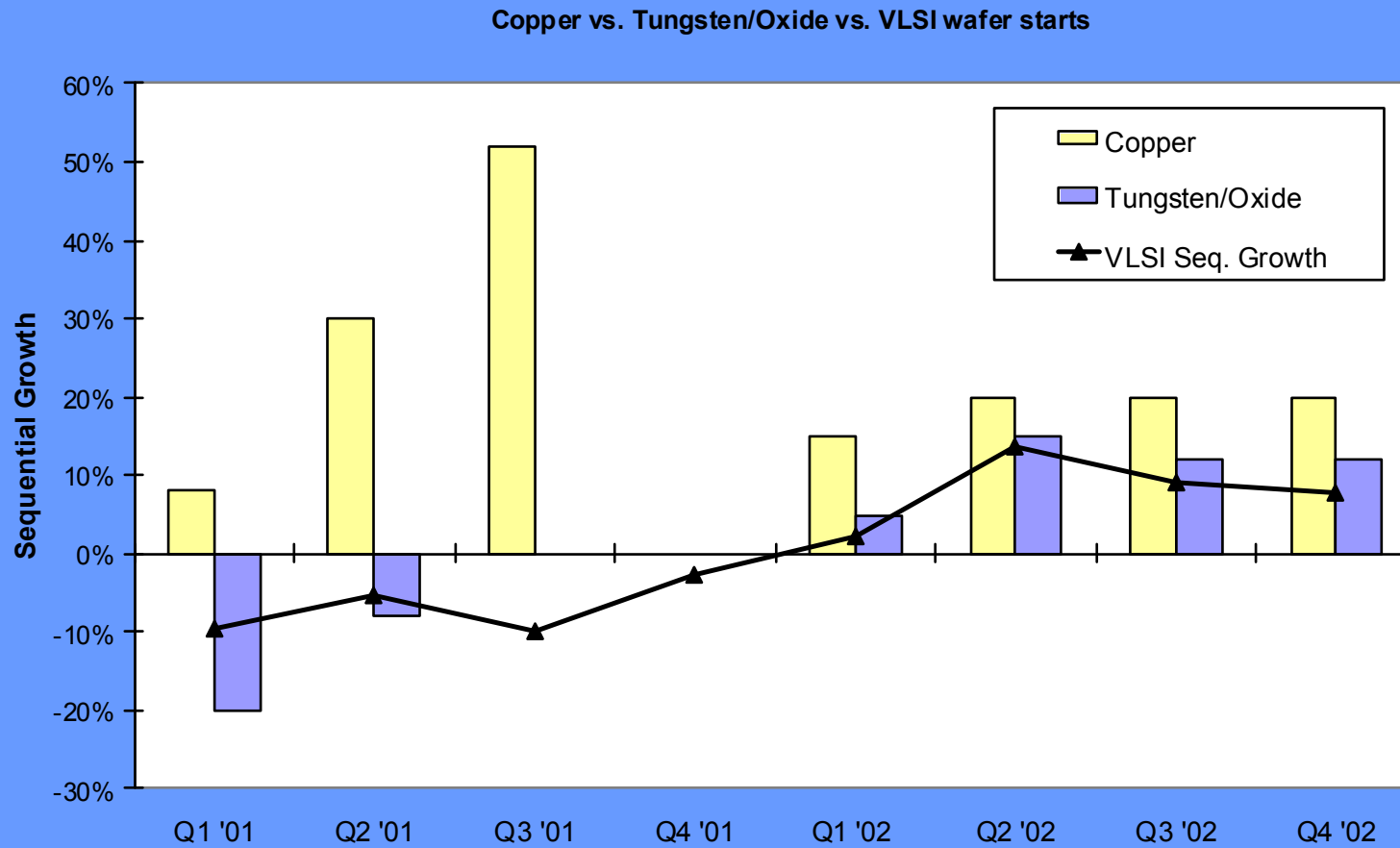
Capacity Growth of Fabs Producing Copper Chips



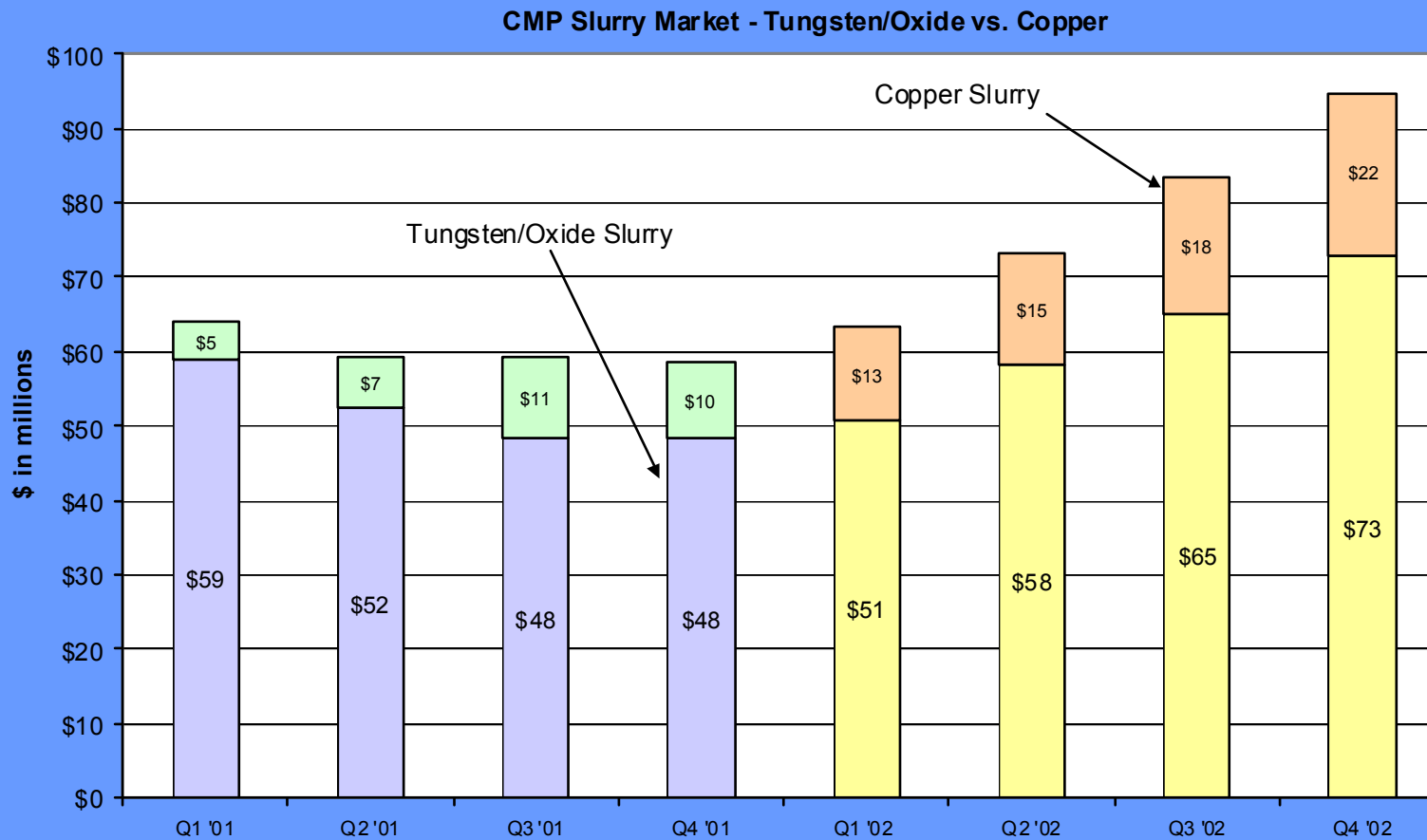
Source: Semiconductor Equipment and Materials International.

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Copper vs. Tungsten/Oxide vs. Wafer Starts

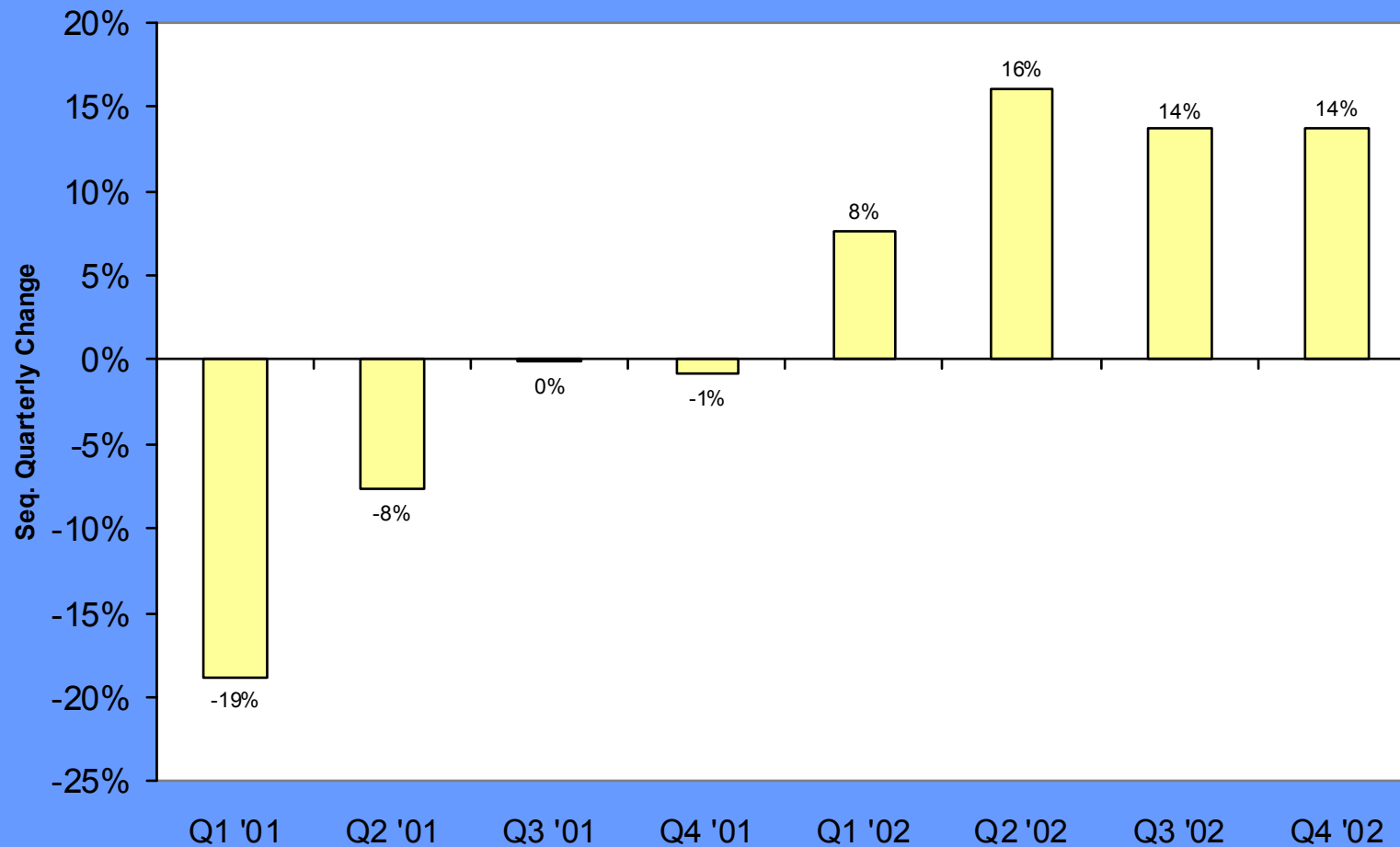


Tungsten/Oxide vs. Copper Slurry



Total Slurry Market Change

Total Slurry Market Sequential Change



Disclaimer

◆ Companies mentioned

Cabot Microelectronics (CCMP-\$55.04; 2H)

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