2004 EDAC CEO Forecast

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President & CEO

Best-in-Class Semiconductor IP Platforms

Predictions

- Moore's Law is broken
- Over time, the Semiconductor IP market will overtake the EDA market

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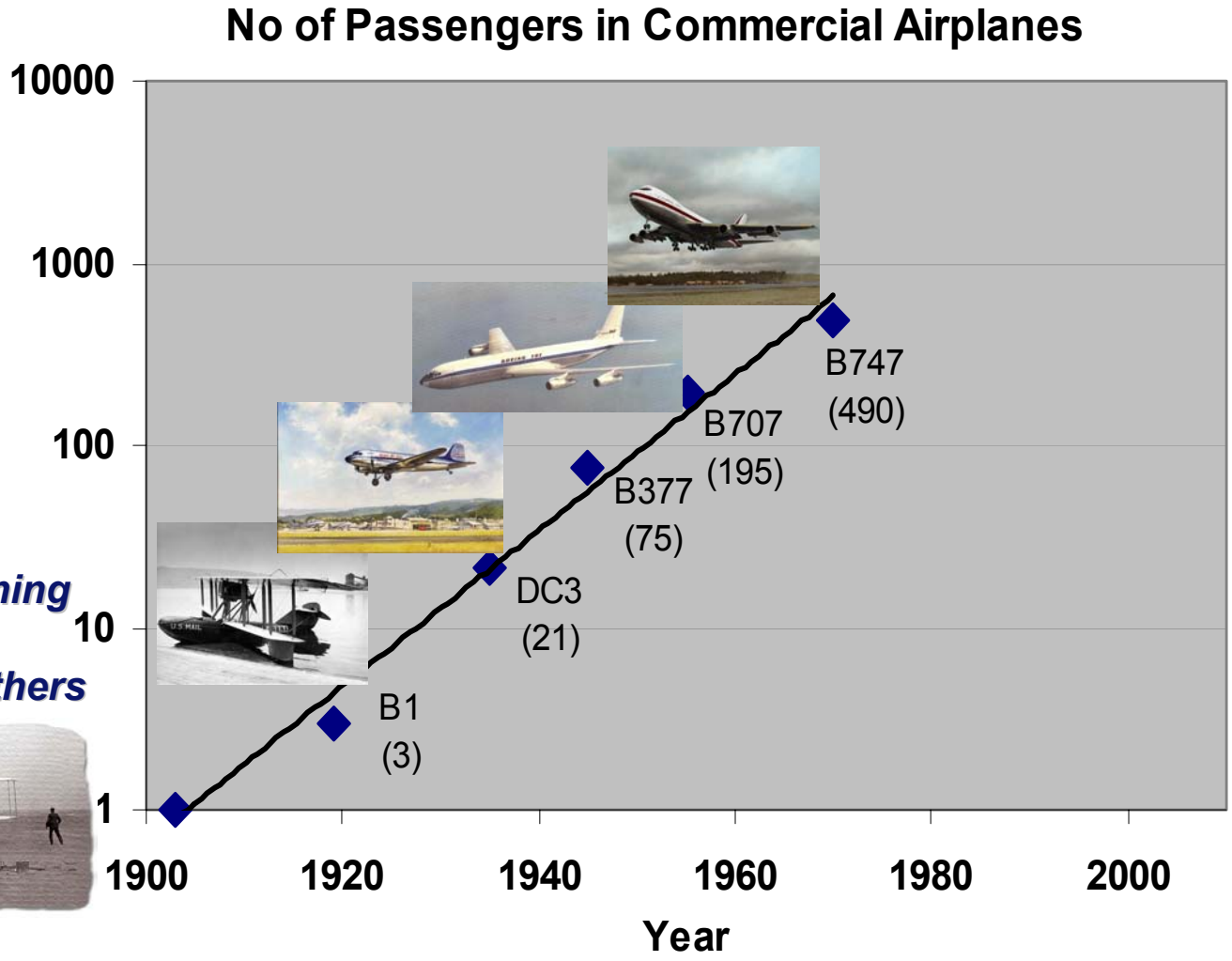
What Can We Learn From The Commercial Aviation History?



The beginning
1903
Wright Brothers

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Yoav's Law of Aviation

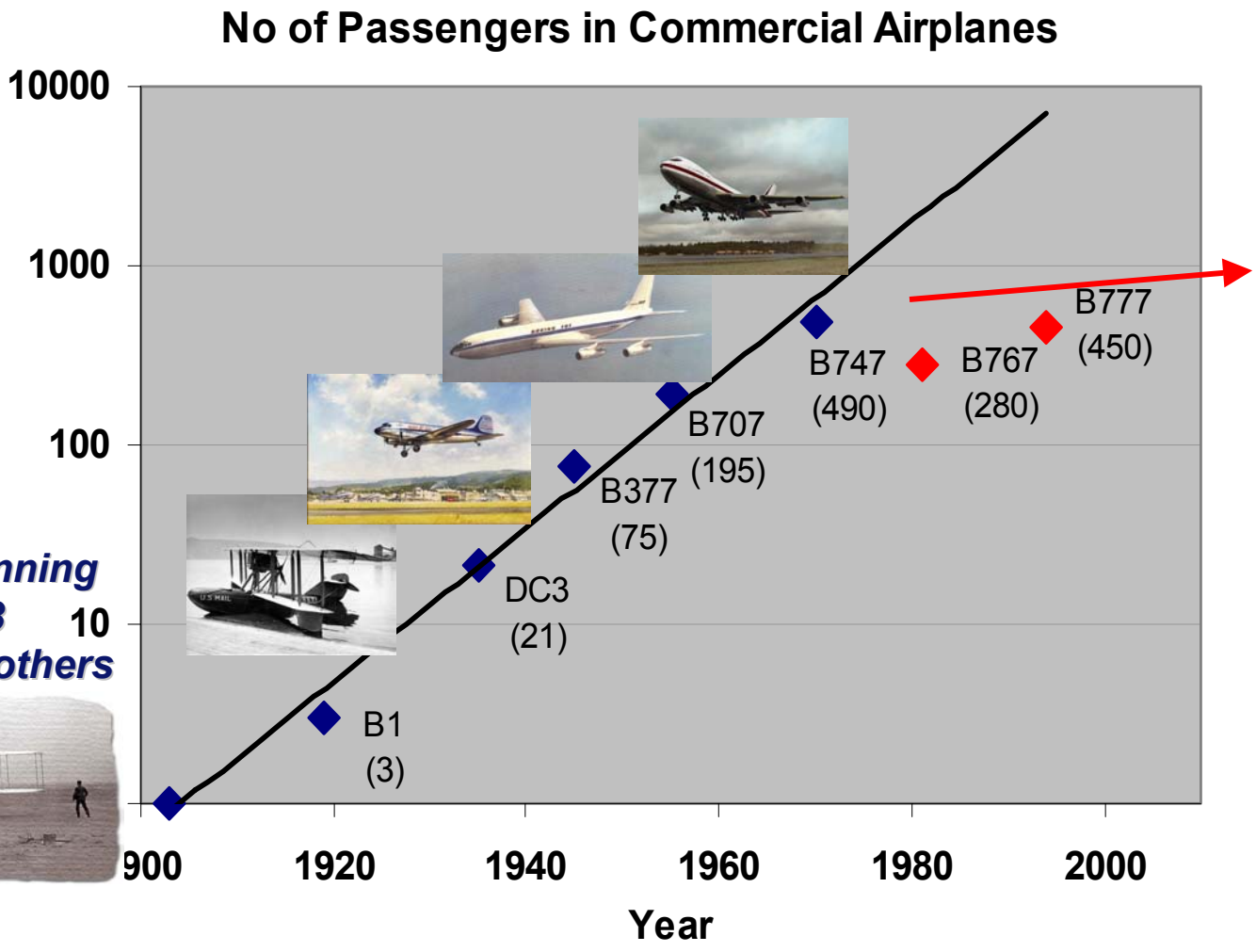
"The number of passengers doubles every 7 years !"

If engineers had controlled the aviation industry, the "1970 AIA Roadmap" would have read:

"There is no technical barrier that will change the trend of the last 70 years. Therefore, we predict that:

- By 1990, airplanes will fly 5,000 passengers
- By 2000, airplanes will fly 13,000 passengers"

The Lesson: Extrapolations Often Lead to Wrong Conclusions



The beginning 1903 Wright Brothers

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Can This Be Happening to Moore's Law?

- After a 70-year straight line trend, we see a major shift!
- Why did the law break?
  - It's the economics, stupid…
  - If no gain, why take the pain?
  - Progress shifted to improving economics
- Questions for the semiconductor industry
  - Wafer size: did it make sense to go to 300mm?
  - Shrink: how many applications will justify 90nm?

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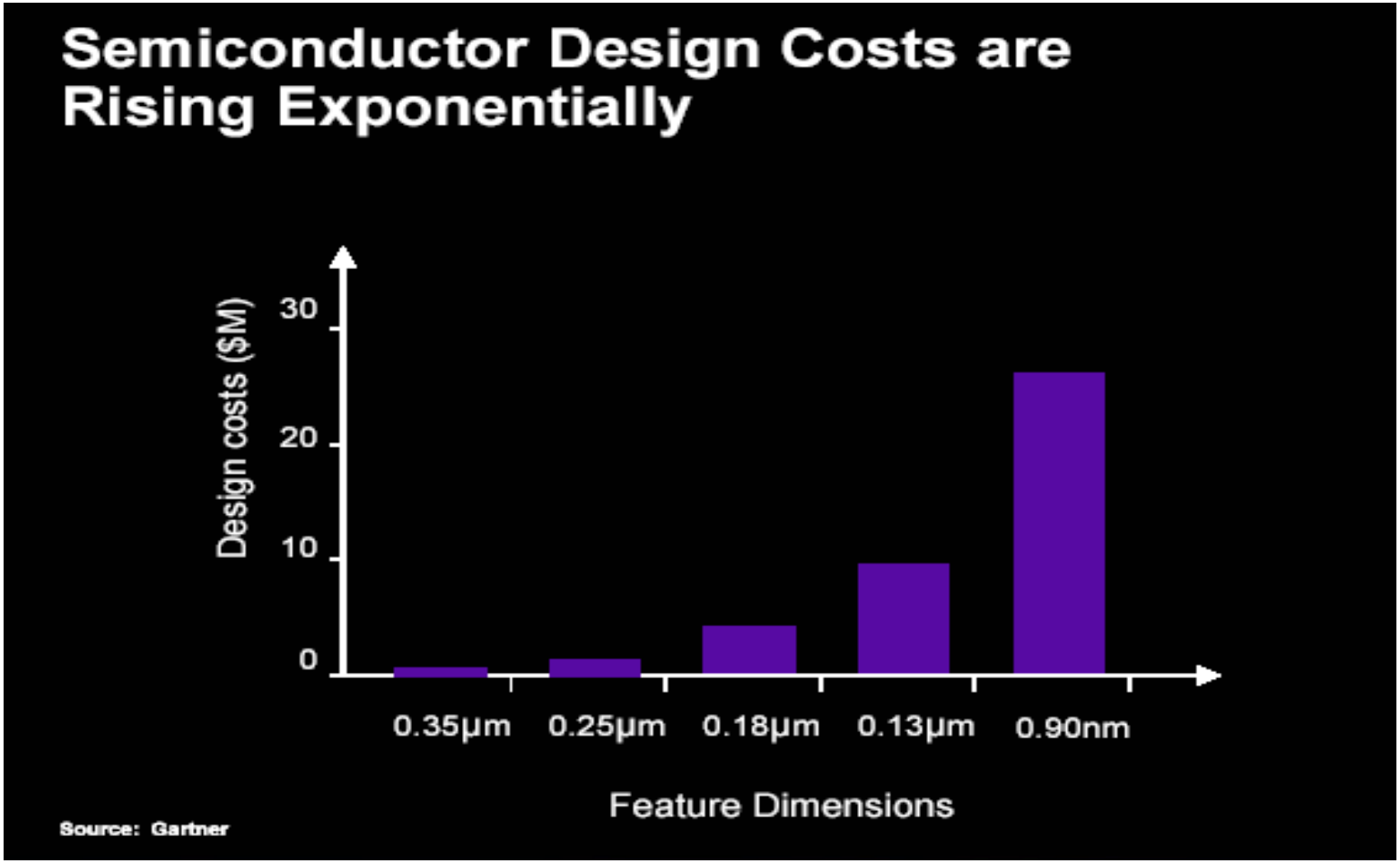
Economic Drivers for Semiconductor Industry



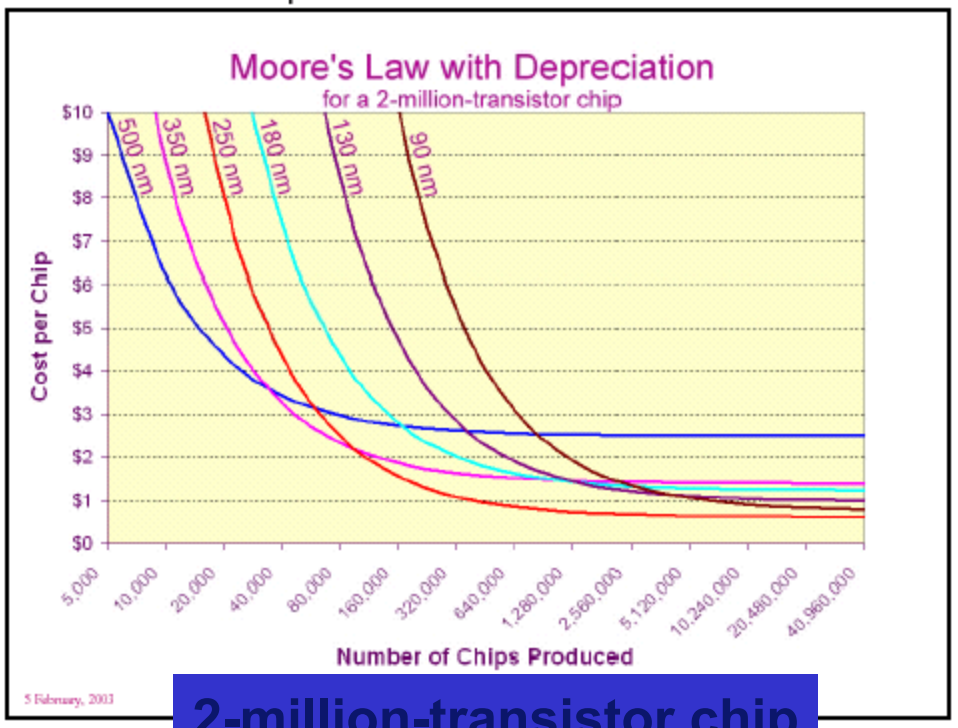
The Lowest Cost Technology Is Not Always The Smallest Dimension

Chart 31: Moore's Law with Depreciation

Source: Nick Tred

25-million-transistor chip

Chart 42: Moore's Law with Depreciation



Source: Nick Tredennick

2-million-transistor chip

Source: Nick Tredennick

Editor of the *Dynamic Silicon Newsletter*, now being merged with the *Gilder Technology Report*

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Is Moore's Law Ready for a Patch?

Second order effects of 40 years ago are primary order effects today

- Current technologies are adequate for the majority of applications
- Only high volume applications can tolerate increased fixed costs
  - Increasing fixed Fab costs
  - Increasing design cycle time and test complexity
  - High NRE costs
- Moore's Law no longer matches the industry trends
  - The industry is driven by economics, not physics!

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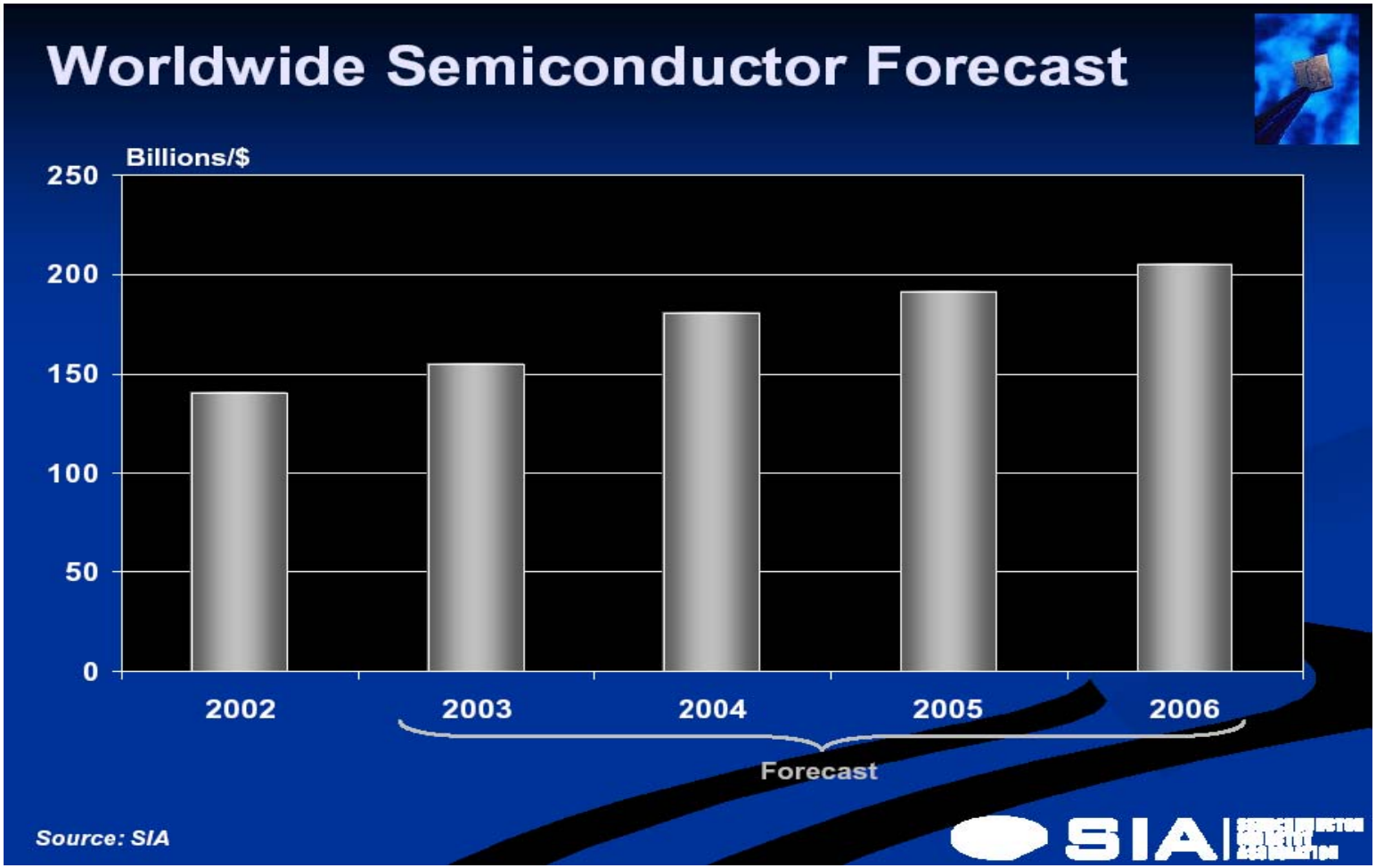
Robust Growth for Several Years



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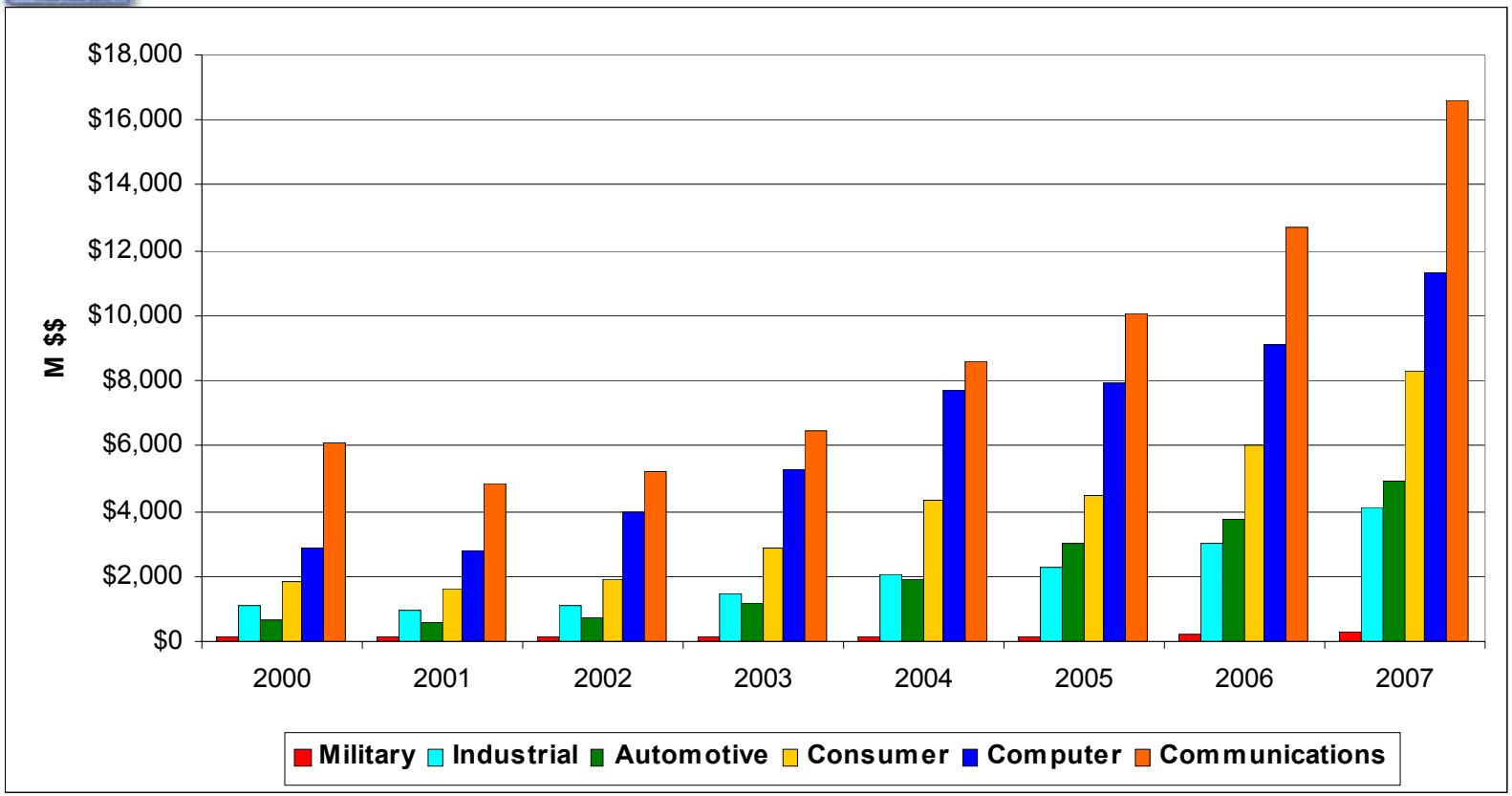
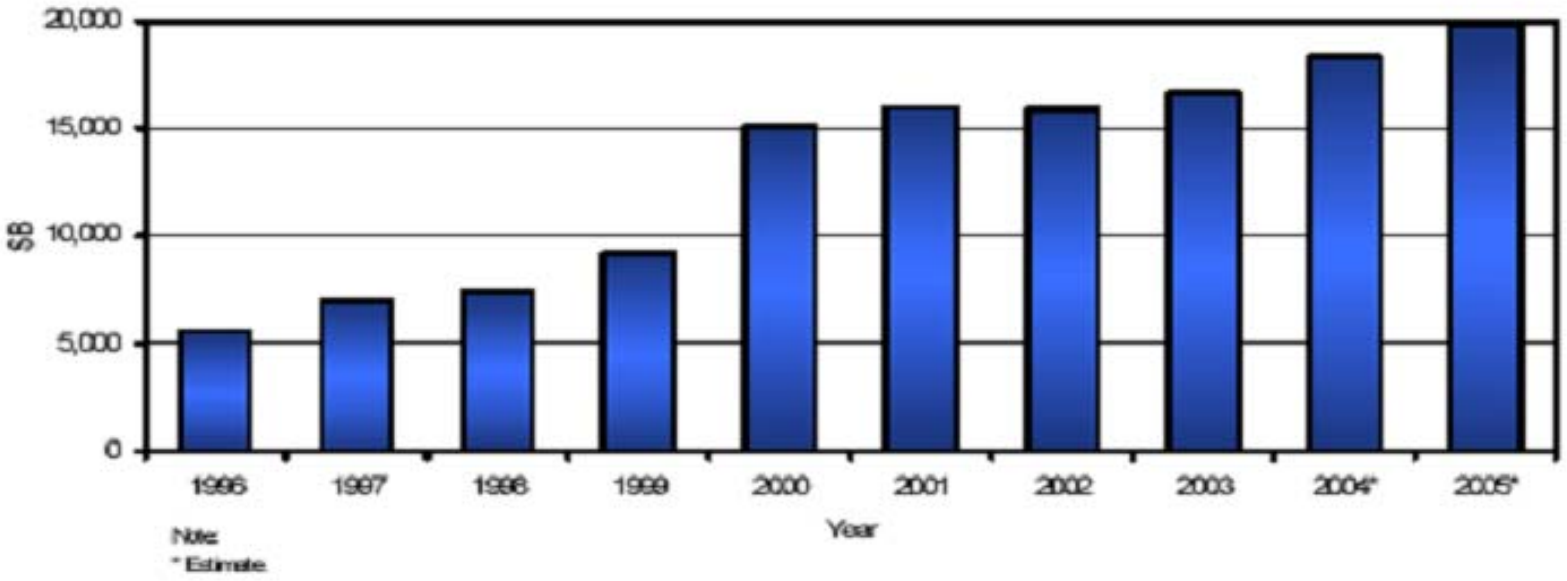
Semico SoC Market Forecast



Note: The SoC Market is a superset of the ASIC market consisting of some Std. Cell, some Micro Peripherals and some ASSPs

Source: Semico Research Corp.

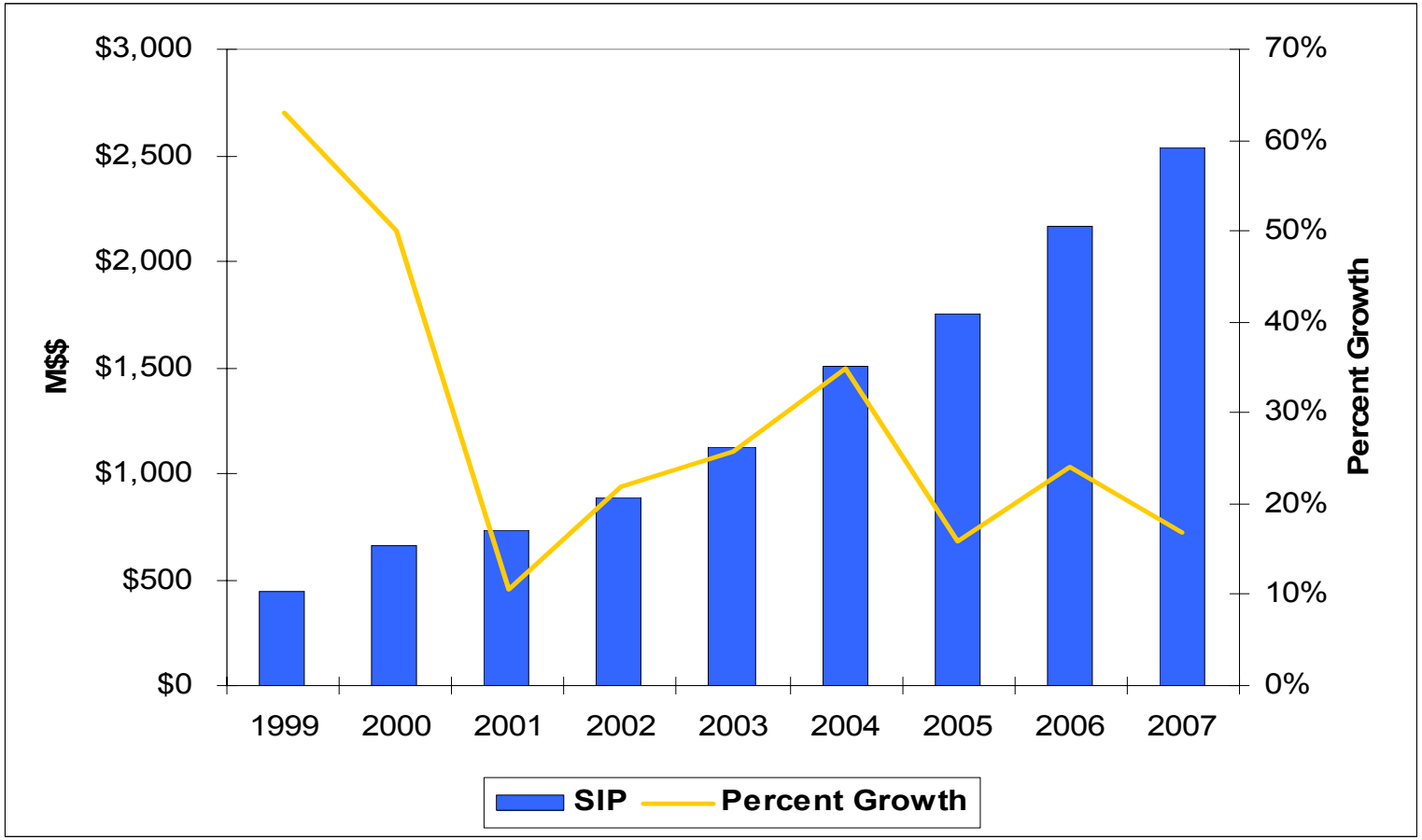
Healthy R&D Expenditure



Source: IBS

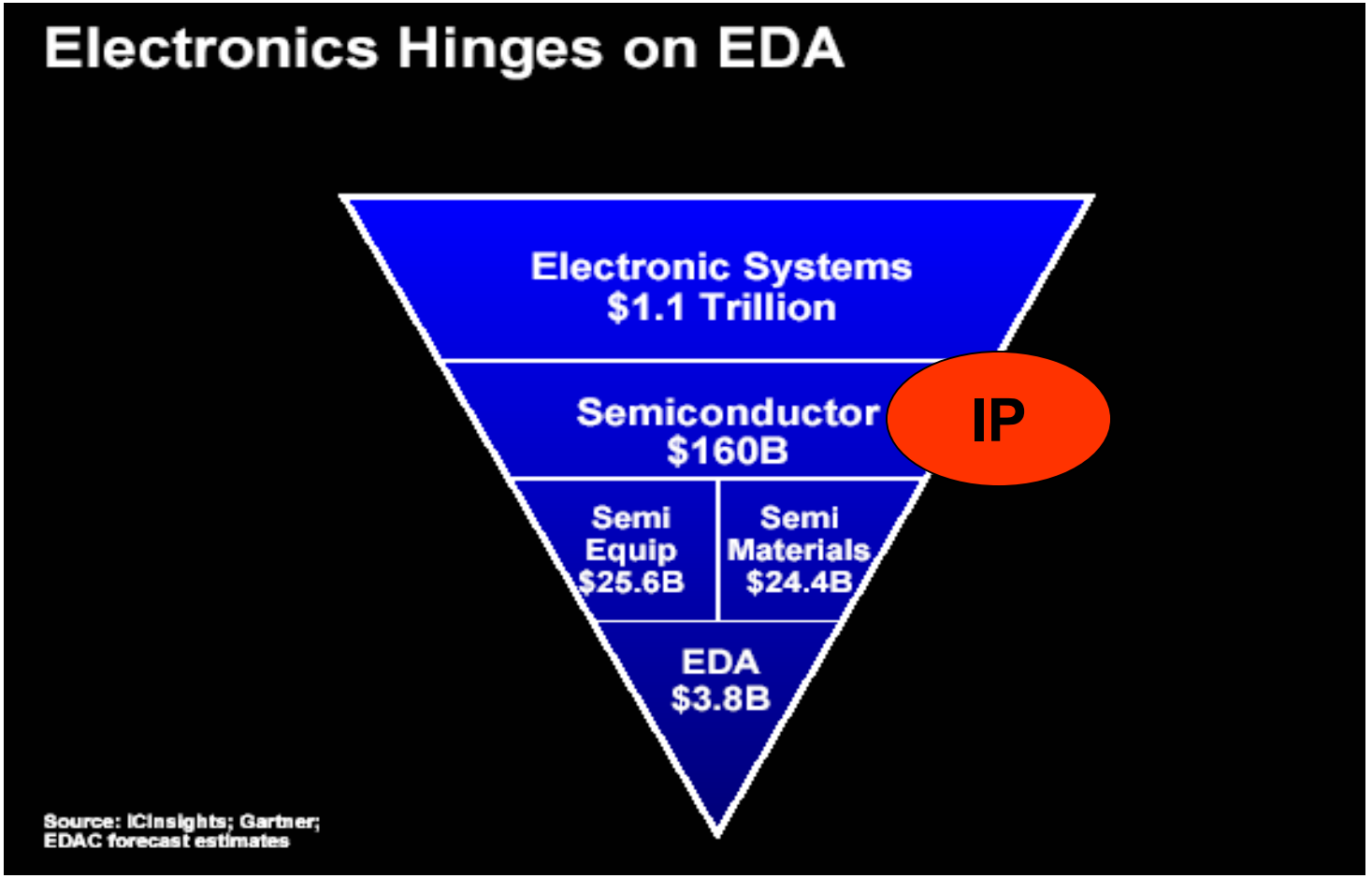
VIRAGE LOGIC

Semico SIP Market Forecast



Source: Semico Research Corp.

SIP Is the Future of EDA



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