Processor Performance (MIPS)

Data from: Intel

Doubling time: 1.8 years
Average Transistor Price

Data from: Dataquest/Intel

Halving time: 1.6 years
Microprocessor Clock Speed

Data from: Berndt et al., ITRS

Doubling time: 2.7 years

$R^2 = 0.97$
Microprocessor Cost Per Transistor Cycle

Data from: Berndt et al., SEMATCH ITRS Roadmap

Halving time: 1.1 years
Transistor Manufacturing Costs Falling

Logarithmic Plot

Wafer Cost/Transistor (micro-cents)

Year

Data from: SEMATCH ITRS Roadmap
Dynamic RAM Memory "Half Pitch" Feature Size

R² = 0.9901

Data from: Intel, SEMATECH ITRS Roadmap

Halving time: 5.4 years
Total Bits Shipped

Data from: In-Stat/MDR
Doubling time: 1.1 years
Doubling (or Halving) times

- Dynamic RAM Memory “Half Pitch” Feature Size 5.4 years
- Dynamic RAM Memory (bits per dollar) 1.5 years
- Average Transistor Price 1.6 years
- Microprocessor Cost per Transistor Cycle 1.1 years
- Total Bits Shipped 1.1 years
- Processor Performance in MIPS 1.8 years
- Transistors in Intel Microprocessors 2.0 years
- Microprocessor Clock Speed 2.7 years
The Biotechnology revolution:

the intersection of biology with information technology
Growth in Genbank DNA Sequence Data

Data from: GenBank
Every form of communications technology is doubling price-performance, bandwidth, capacity every 12 months