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January 17, 2006

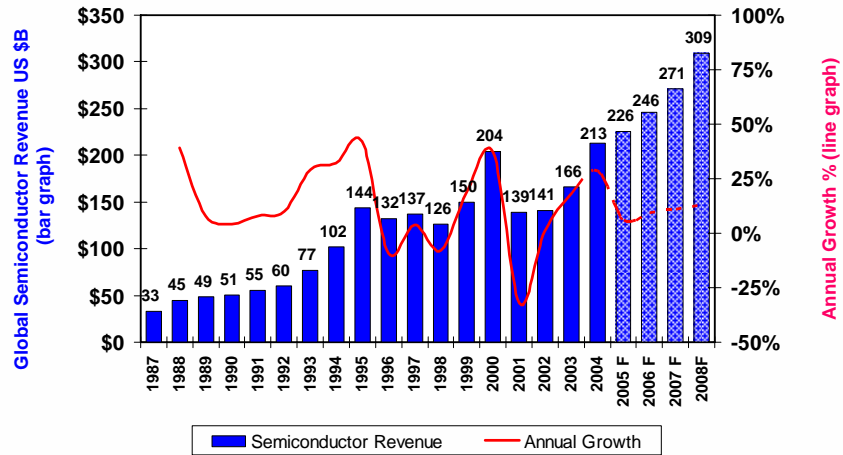


Outline

- **Industry Trends**
- **Wafer Fab Materials**
- **Semiconductor Packaging Materials**
- **Summary**



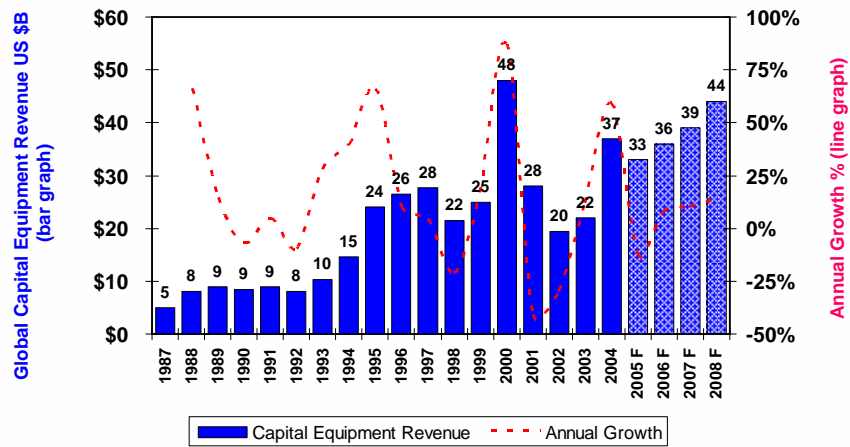
Semiconductor Cycles



Source: SIA/WSTS historical year end reports, SIA November 2005 forecast



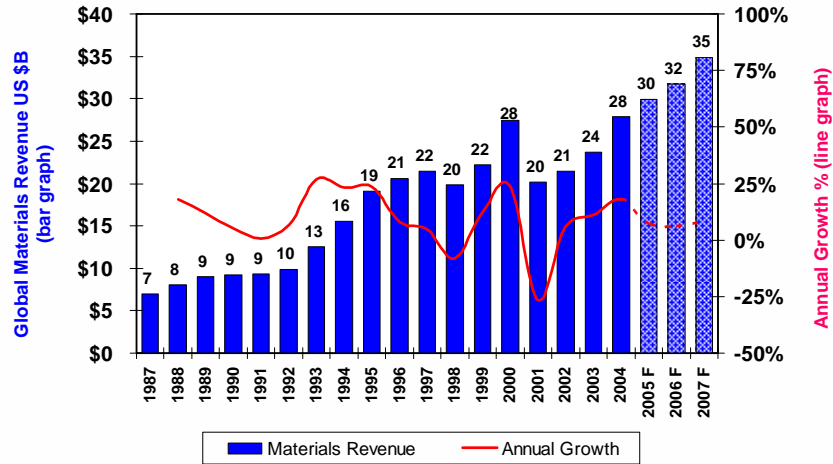
Capital Equipment Cycles



Source: SEMI and SEMI/SEAJ year end historical reports, SEMI year-end 2004 consensus forecast



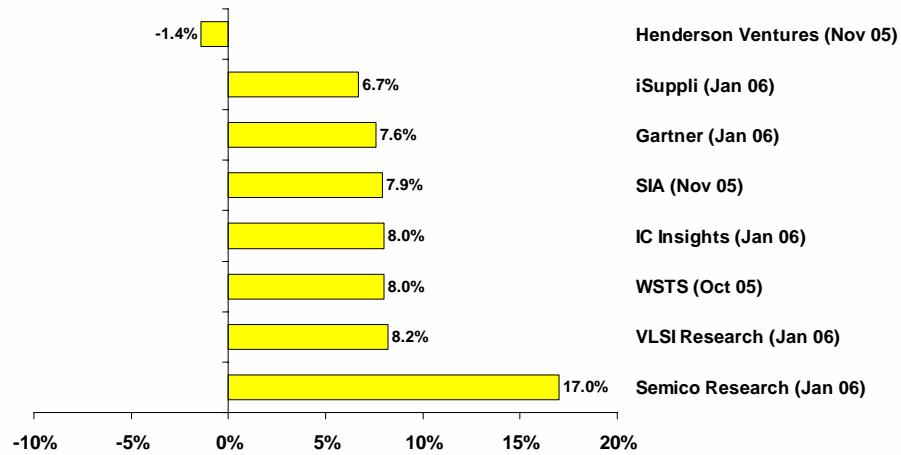
Semiconductor Materials Cycles



Source: Rose Associates historical reports 1987 through 1999, SEMI 1999 through 2003, Forecast April 2005



2006 Semiconductor Revenue Forecasts



Source: SEMI



New 300 mm Fabs in 2006

Company	Fab Name	Status
AMD	Fab 36	Equipping
Flash Partners (Toshiba)	Fab 3	Equipping
IBM	B323-A	Constructing
Intel	Fab 24-2	Constructing
Matsushita		Constructing
Renesas		Constructing
Samsung	S-Line	Constructing
Sharp		Constructing
Sony	Kyushu-2	Constructing
TI	RFab	Constructing
Winbond	Fab 6	Equipping

Source: Strategic Marketing Associates, World Fab Watch October 2005



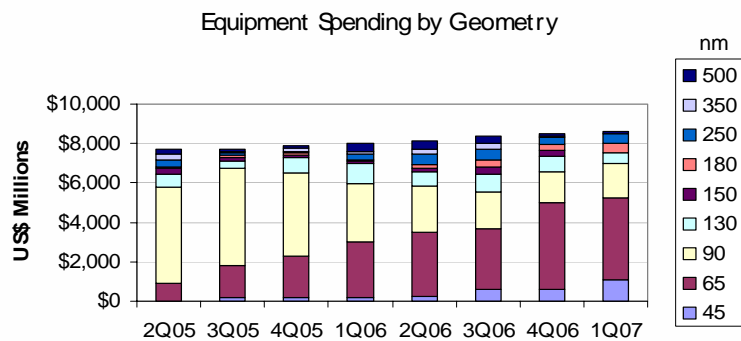
New 300 mm Fabs in 2007

Company	Fab Name	Status
Hynix-ST (China)	Fab 2	Constructing
Inotera	Fab 2	Constructing
Intel	Fab 32	Constructing
Macronix	Fab 3 300 mm	Announced
Powerchip	Fab 12 C	Announced
ProMOS Tech	Fab 3- module 2	Announced
Samsung	Line 15 300 mm R&D	Planned Announced
Silterra	Fab 2	Planned
Spansion	SP1	Announced
TSMC	Fab 14 Phase 2	Constructing
Winbond	Fab 6 Module 2	Planned

Source: Strategic Marketing Associates, World Fab Watch October 2005



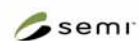
Fab Equipment Spending by Process Geometry



Source: Strategic Marketing Associates, FabFutures October 2005

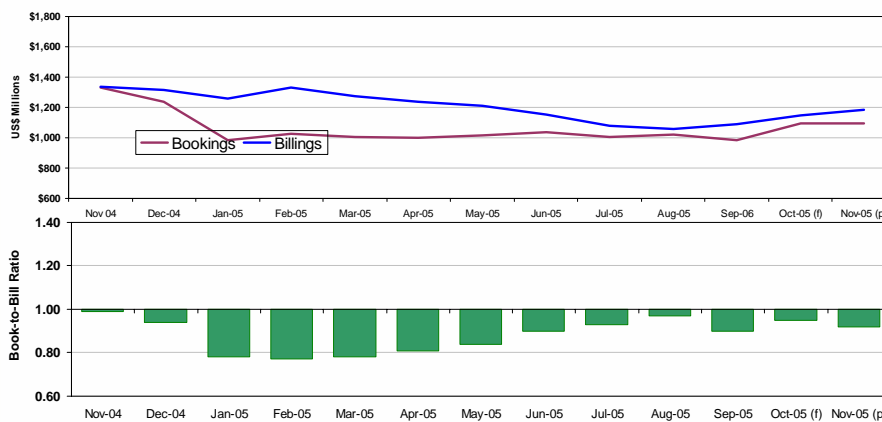


Semiconductor Equipment



SEMI North America Book-to-Bill Ratio

North American Headquartered Manufacturers Global Capital Equipment Book-to-Bill (based on three month averages)

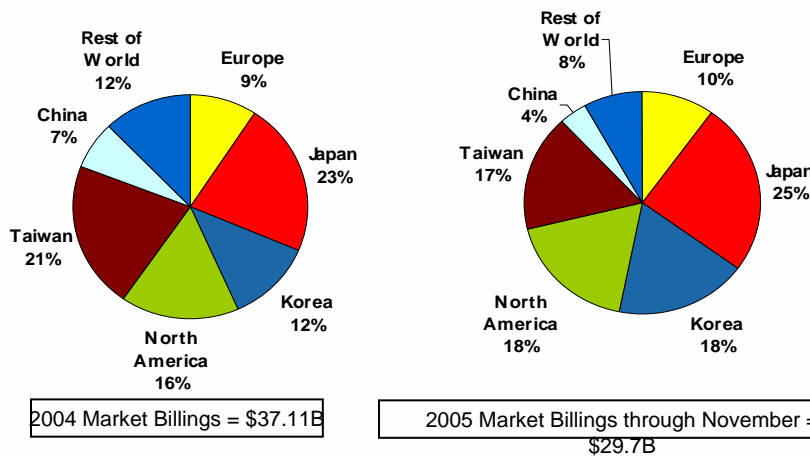


Source: SEMI December 2005



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Semiconductor Equipment Markets

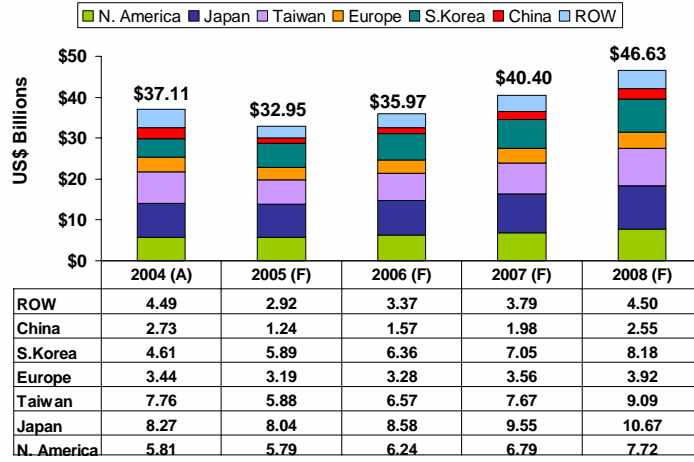


Source: SEMI/SEAJ January 2006, SEMI China Capital Equipment and Electronic Materials Outlook



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SEMI® 2005 Year-end Equipment Consensus Forecast By Market Region



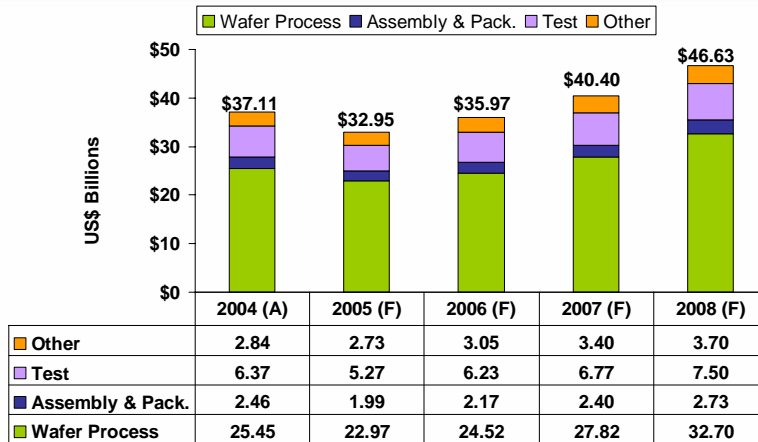
Totals may not add due to rounding

Source: SEMI Year-end 2005 Semiconductor Consensus Forecast, December 2005



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SEMI® 2005 Year-end Equipment Consensus Forecast By Segment



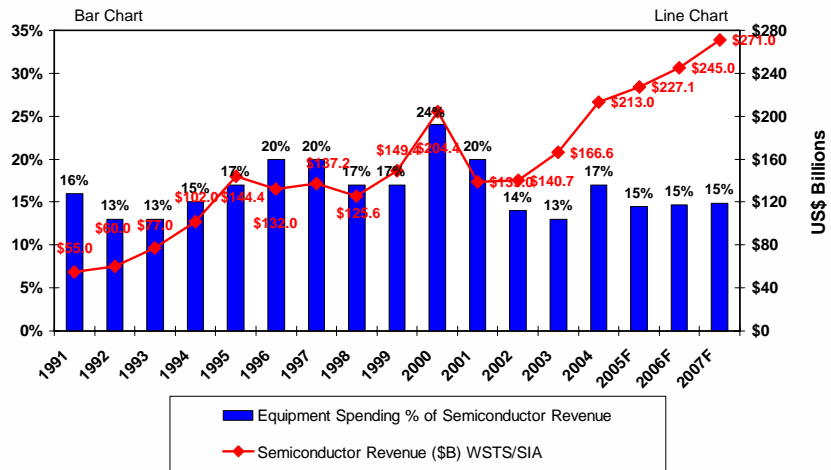
Totals may not add due to rounding

Source: SEMI Year-end 2005 Semiconductor Consensus Forecast, December 2005



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Equipment Spending Trends



Source: SEMI and WSTS/SIA, WSTS semiconductor forecast



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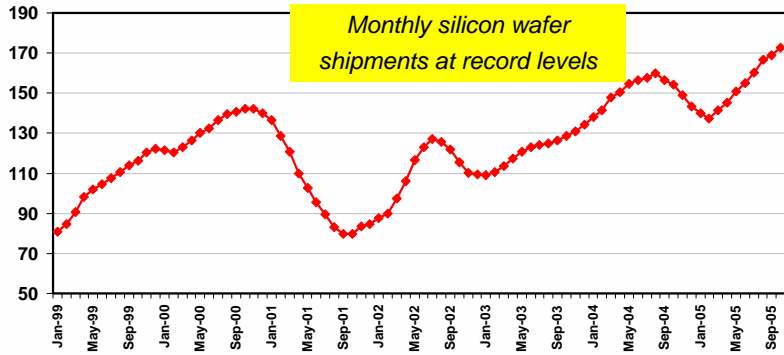
Semiconductor Materials



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Silicon Area Shipment Index

Worldwide Wafer Area Shipment Index
(Three-month moving average)



Source: SEMI Silicon Manufacturers Group December 2005



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Worldwide Wafer Fab Materials Forecast

US\$ Millions	Actual		Forecast		
	2004	2005	2006	2007	2008
Silicon Wafers ¹	\$7,550	\$8,202	\$8,988	\$9,583	\$10,698
Other Substrates	640	670	720	770	840
Photomasks ²	2,775	3,045	3,183	3,350	3,554
Photoresists	876	916	946	952	997
Photoresist Ancillaries ³	852	834	876	911	1,002
Wet Chemicals	815	825	857	887	931
Gases	2,039	2,051	2,103	2,156	2,203
Sputter Targets ⁴	402	434	464	520	560
CMP Slurry & Pads ⁵	611	676	767	867	988
Other New Materials ⁶	275	300	336	395	477
Total	\$16,835	\$17,953	\$19,240	\$20,391	\$22,250
% Growth		6.6%	7.2%	6.0%	9.1%

Source: SEMI January 2006



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Wafer Fab Materials Forecast Notes

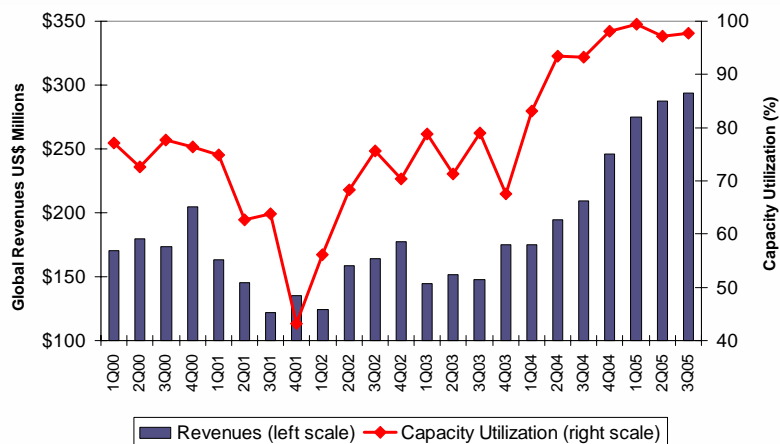
1. Silicon wafers include merchant sales value only; includes SOI wafers; no reclaim wafers
2. Includes captive market
3. Includes resist removal chemicals, developers, anti-reflective coatings, contrast enhancers, edge bead removers, adhesion promoters, etc.
4. Source is Techcet Group LLC, includes precious metals
5. Estimates for IC applications only
6. Includes low k dielectrics, copper plating solutions, dielectric precursors, organometallic precursors, etc.
7. All forecasts in current dollars
8. Source for all data is SEMI, unless otherwise indicated

Source: SEMI January 2006



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Polysilicon Market Trends



Includes captive and merchant markets; solar and semiconductor applications.

Source: SEMI SMG November 2005

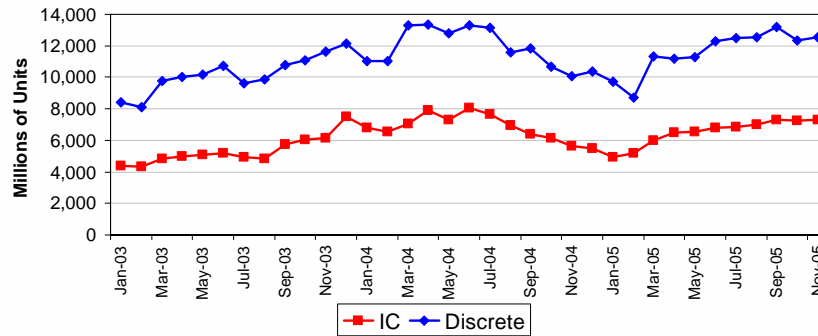


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Leadframe Shipments

Worldwide IC and Transistor Leadframe Shipments

(based on input from 23 suppliers)



Source: SEMI/JAST January 2006



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Worldwide Semiconductor Packaging Materials Forecasts

US\$ Millions	Actual	Estimate	Forecast		
	2004	2005	2006	2007	2008
Leadframes	\$2,960	\$3,010	\$3,045	\$3,061	\$3,041
Plastic Laminate Substrates ¹	3,244	4,202	5,310	6,301	7,837
Flex Substrates ²	308	343	372	419	450
Ceramic Packages	1,600	1,670	1,750	1,820	1,900
Encapsulation Resins	1,581	1,765	1,937	2,009	2,071
Bonding Wire ³	1,762	1,809	2,057	2,193	2,327
Die Attach Materials ⁴	368	463	489	526	564
Others ⁵	109	145	188	248	306
Total	\$11,932	\$13,407	\$15,148	\$16,577	\$18,496
% Growth		12.8%	13.0%	9.4%	11.6%

Source: SEMI and TechSearch International, 2005 Global Semiconductor Packaging Materials Outlook, January 2006



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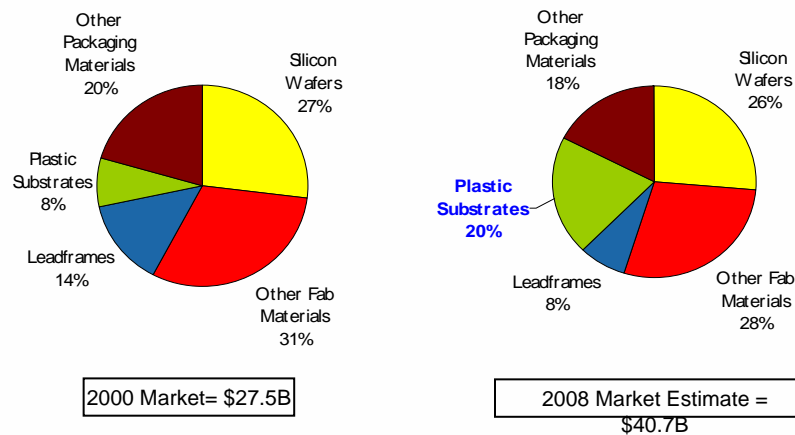
Semiconductor Packaging Materials Forecast Notes

1. Source is TechSearch International. Includes PBGA, PPGA, and CSP laminate substrates
2. Source is TechSearch International. Includes flex BGA and CSP substrates
3. Assume gold value of \$410/trz for 2005, \$436/trz for 2006-2008 forecast period
4. Includes tape materials
5. Other include solder balls and wafer level package dielectrics
6. Source for all data is SEMI, unless otherwise indicated
7. All forecasts in current dollars

23 Source: SEMI January 2006



Plastic Substrates- Growing in Importance



24 Source: SEMI and TechSearch International, 2005 Global Semiconductor Packaging Materials Outlook, January 2006



Summary

- **300 mm fab investment is strong...most outlooks are for single-digit growth in 2006 semiconductor revenues**
- **Capital equipment bookings were stable throughout 2005 at levels well above 2002/2003.**
- **Consensus forecast outlook for semiconductor equipment is for 9% growth in 2006.**
- **2005 was a record year for the semiconductor materials market; 9.7% growth forecasted for 2006**

