

World Semiconductor Trade Statistics

An Introduction to WSTS

09.02.2008



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SEMICONDUCTOR
TRADE STATISTICS

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Mission Statement

WSTS' mission is to provide timely, authentic and high quality semiconductor market data on industry product shipments in a product line format serving the broad marketing and executive needs; furthermore to provide a semiannually updated semiconductor market forecast based on the comprehensive market knowledge of WSTS member companies.

Membership

- Membership is organized in four regional groups:
 - Americas
 - Europe
 - Japan
 - Asia Pacific

Americas Regional Group

- Advanced Micro Devices
- Allegro Microsystems
- AMI Semiconductors
- Analog Devices, Inc
- Avago Technologies
- Cree Inc.
- Cypress Semiconductor
- Diodes Inc.
- Fairchild Semiconductor
- Freescale Semiconductor
- IBM Microelectronics
- Intel Corporation
- International Rectifier Corp.
- Intersil
- Linear Technology Corporation
- LSI Logic Corporation
- Micron Technology
- National Semiconductor Corp.
- ON Semiconductor
- Powerex Inc.
- SanDisk
- Spansion LLC
- Teccor - Littelfuse
- Texas Instruments
- Volterra Semiconductor
- Xilinx

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Europe Regional Group

- Austriamicrosystems
- CamSemi Ltd (Cambridge Semiconductor)
- Fagor Electronica
- Infineon Technologies
- Micronas
- NXP Semiconductors
- Osram Optical Semiconductors
- Robert Bosch GmbH
- STMicroelectronics
- Vishay
- Wolfson Microelectronics
- Zetex plc
- ZMD AG

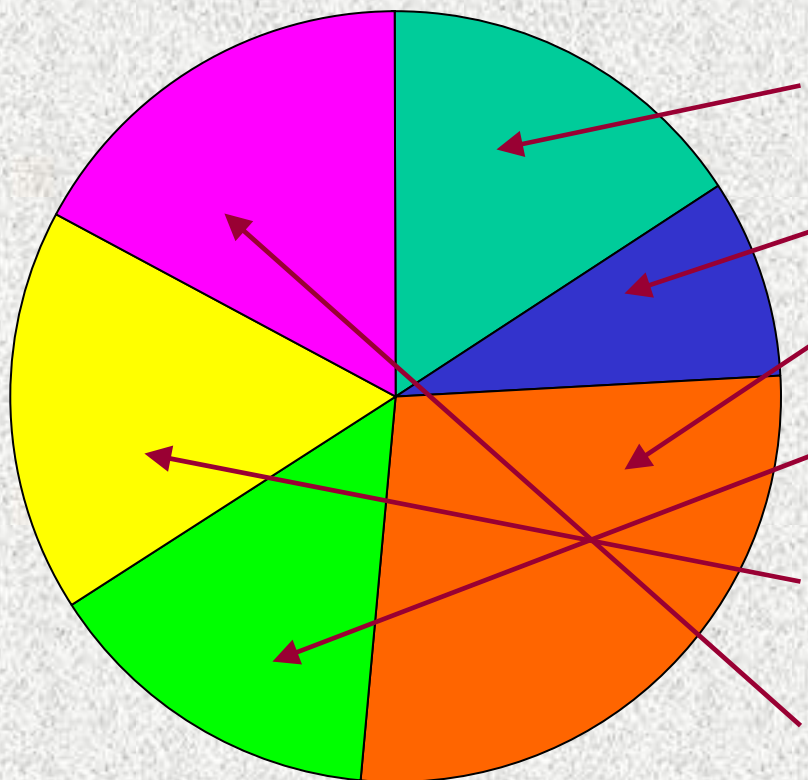
Japan Regional Group

- Elpida Memory Inc.
- Fuji Electric
- Fujitsu
- Hitachi Power Semiconductors
- Matsushita
- Mitsubishi
- NEC Electronics
- New Japan Radio Corp.
- Nihon Inter Electronics Corporation
- Oki
- Renesas Technology
- Ricoh
- Rohm
- Sanken
- Sanyo
- Seiko Epson
- Sharp Corporation
- Shindengen
- Sony
- Toshiba

Asia Pacific Regional Group

- Chartered Semiconductor
- Hynix Semiconductor
- KEC
- Macronix
- Nanya Technology
- Powerchip Semiconductor
- Rectron
- Samsung
- Taiwan Semiconductor
- Winbond

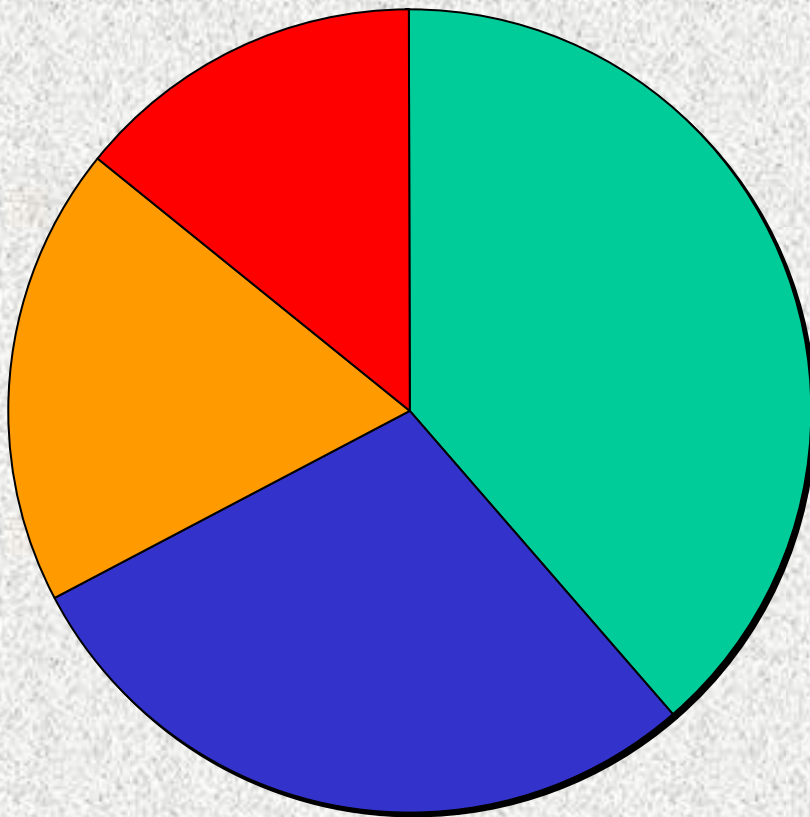
Member Profile – By Company Size



Sales in 2007	Nr.
>\$M 5000	11
\$M 2500 - 5000	6
\$M 1000 - 2500	19
\$M 400 - 1000	10
\$M 100 - 400	12
\$M <100	12

Member Profile – By Region

Total Worldwide 70 Members



Americas 27

Japan 20

Europe 13

Asia Pacific 10

Membership

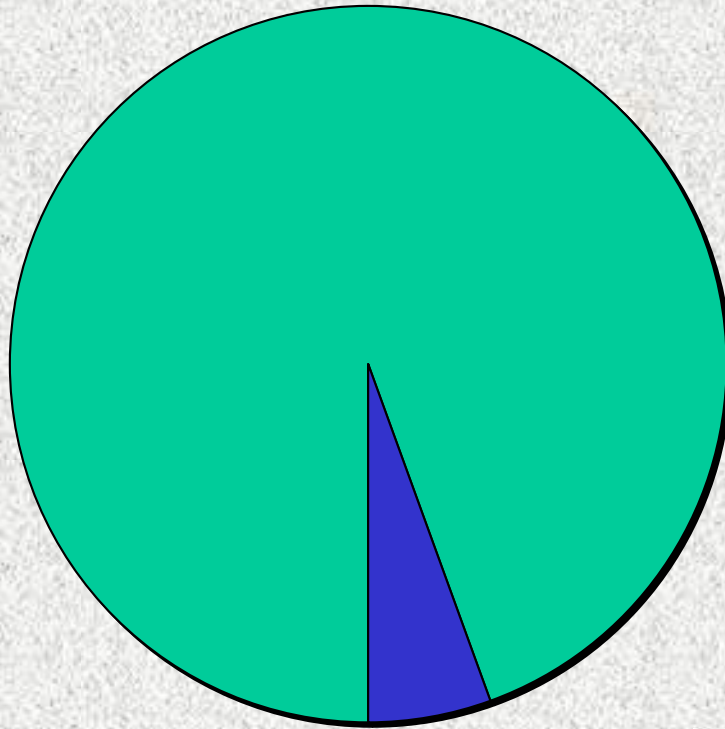
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Member Profile – By Membership

Total Worldwide 70 Members



Regular 67

Associate 3

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2008 Fee Schedule

Revenue		Regular Membership	Revenue		Associate Membership
From	To		From	To	
\$M	\$M	\$	\$M	\$M	\$
0	25	400	0	100	500
26	50	700	101	500	750
51	100	1,100	501	1,000	1,500
101	200	2,000	1,001	up	Not Available
201	400	4,400			
401	600	6,500			
601	800	8,800			
801	1,000	10,000			
1,001	1,250	11,000			
1,251	1,600	11,500			
1,601	2,000	12,000			
2,001	2,500	12,500			
2,501	3,150	13,500			
3,151	4,000	14,500			
4,001	5,000	15,500			
5,001	up	16,000			

Membership

Regular versus Associate Membership

Regular Member

- Higher fees
- Voting rights and right for seat on the Board
- Higher number of access permits to WSTS reports

Associate Member

- Lower fees
- No voting rights and seats on the Board
- Membership limited to 24 months
- Max. 5 product lines
- Max. 1B\$ revenue

Merits of Being WSTS Member

- Free access to WSTS market statistics reports
- Joint creation of the WSTS industry forecast and sharing the results
- Steering WSTS market statistics programs by participation in committee meetings
- Comprehensive inquiry privileges

Reports – Data Sources

- Revenue data is collected directly, authentically and monthly from WSTS member companies
- In order to provide total worldwide market data non-participant estimates are added to the reported numbers by WSTS
- The non participants-estimate is ranging from 2% (Japan) to 33%(Americas) and is around 10% in Europe and Asia Pacific by company location

Reports – Data Collection and Distribution

- Monthly revenue data is aggregated by independent data collection agencies, thereby warranting utmost privacy of individual member company data
- Monthly market data is published within four weeks of month closing to all members on the Internet Portal
- At year end data is published on printed reports (Blue Book and Green Book)
- All other reports are made available by proprietary access to the WSTS Internet Portal

Reports – Listing (1)

- Blue Book (*issued monthly*)
 - Monthly billings of the semiconductor industry by 4 regions and 212 product categories, 177 of them in units and revenues
 - Products that are designed for specific applications are documented in application specific categories (currently 72)

Sample page from 2007 Blue Book (only months 1 to 6 are shown)

	Jan	Feb	Mar	Apr	May	Jun
J0 - STANDARD LINEAR						
Americas	203,208	175,162	213,657	190,328	171,289	187,299
Europe	204,616	197,332	254,243	207,833	204,111	223,085
Japan	169,418	172,112	203,140	191,471	175,497	191,476
Asia Pacific	492,427	466,766	627,262	550,789	537,263	641,701
WW Dollars	1,069,669	1,011,372	1,298,302	1,140,421	1,088,160	1,243,561
WW Units	3,489,571	3,452,683	4,338,838	3,628,027	3,644,027	4,247,300
WW ASP	0.307	0.293	0.299	0.314	0.299	0.293

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Reports – Listing (2)

- Green Book (*issued monthly*)
 - Historical up to date presentation of Blue Book data in 500 diagrams.
- Blue Book History (*updated monthly*)
 - Covering the semiconductor revenue statistics by month from 1991 to date
 - Monthly updated with the most recent Blue Book data
 - Issued at the same date as the Blue Book

Reports – Listing (3)

- Americas, Europe and Asia By Country (*issued quarterly*)
 - By country billings for major product lines (8)
- End Use (*issued at year end*)
 - Billings of 17 major product lines into 6 end-use market segments, broken down into 4 regions. This report matches the 12 month totals of the Blue Book report

Reports – Listing (4)

- Forecast (*spring and autumn each year*)
 - Industry forecast by region and product (format similar to monthly billing report „Blue Book“)
 - By quarter of current and following year and yearly for two further years.
- A forecast update is issued by the end of 2nd, 3rd and 4th quarter.

WSTS Forecast

sample page from the Spring Forecast 2007

M1 - MOS DRAM		WSTS Semiconductor Forecast										M1 - MOS DRAM		
MOS DRAM Code	M1	2006 Total	2007				2007 Total	2008				2008 Total	2009 Total	2010 Total
			Q1	Q2	Q3	Q4		Q1	Q2	Q3	Q4			
Amer - \$M		9,628.0	2,467.7	2,132.1	2,294.1	2,514.4	9,408.3	2,448.6	2,345.0	2,272.7	2,238.5	9,304.8	9,714.2	10,005.6
3/3 % \$		21.8	-13.0	-13.6	7.6	9.6	-2.3	-2.6	-4.2	-3.1	-1.5	-1.1	4.4	3.0
% of World		28.5	25.6	26.8	26.8	27.5	26.6	26.9	26.0	25.4	25.0	25.8	26.0	25.5
Amer - \$M		9,628.0	2,467.7	2,132.1	2,294.1	2,514.4	9,408.3	2,448.6	2,345.0	2,272.7	2,238.5	9,304.8	9,714.2	10,005.6
3/3 % \$		21.8	-13.0	-13.6	7.6	9.6	-2.3	-2.6	-4.2	-3.1	-1.5	-1.1	4.4	3.0
Europe - \$M		5,063.9	1,444.4	1,169.9	1,219.1	1,294.6	5,128.0	1,273.2	1,251.7	1,230.2	1,208.8	4,963.9	4,988.7	5,108.5
3/3 % \$		23.2	-10.1	-19.0	4.2	6.2	1.3	-1.7	-1.7	-1.7	-1.7	-3.2	0.5	2.4
% of World		15.0	15.0	14.7	14.2	14.1	14.5	14.0	13.9	13.7	13.5	13.8	13.4	13.0
Eur - Euro M		4,018.4	1,101.9	892.5	930.0	987.7	3,912.2	971.3	954.9	938.6	922.2	3,787.0	3,805.9	3,897.2
3/3 % Euro		21.9	-11.7	-19.0	4.2	6.2	-2.6	-1.7	-1.7	-1.7	-1.7	-3.2	0.5	2.4
Japan - \$M		4,587.1	1,185.9	981.9	1,038.9	1,080.4	4,287.1	1,072.2	1,064.1	1,055.9	1,047.7	4,239.9	4,290.8	4,539.7
3/3 % \$		38.7	-4.7	-17.2	5.8	4.0	-6.5	-0.8	-0.8	-0.8	-0.8	-1.1	1.2	5.8
% of World		13.6	12.3	12.3	12.1	11.8	12.1	11.8	11.8	11.8	11.7	11.8	11.5	11.6
Jpn - ¥100M		5,339.2	1,417.5	1,173.7	1,241.8	1,291.4	5,124.3	1,281.6	1,271.9	1,262.1	1,252.3	5,068.0	5,128.8	5,426.2
3/3 % ¥		46.5	-3.3	-17.2	5.8	4.0	-4.0	-0.8	-0.8	-0.8	-0.8	-1.1	1.2	5.8
Asia Pac - \$M		14,507.7	4,549.7	3,676.2	4,014.4	4,263.3	16,503.5	4,309.0	4,354.7	4,400.4	4,446.1	17,510.2	18,350.7	19,598.5
3/3 % \$		41.2	-5.3	-19.2	9.2	6.2	13.8	1.1	1.1	1.0	1.0	6.1	4.8	6.8
% of World		42.9	47.2	46.2	46.9	46.6	46.7	47.3	48.3	49.1	49.7	48.6	49.1	49.9
World - \$M		33,786.6	9,647.6	7,960.1	8,566.4	9,152.7	35,326.8	9,103.0	9,015.5	8,959.2	8,941.1	36,018.8	37,344.4	39,252.3
3/3 % \$		32.0	-8.1	-17.5	7.6	6.8	4.6	-0.5	-1.0	-0.6	-0.2	2.0	3.7	5.1

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Reports – Access to Data

1. WSTS Members obtain all reports in full detail at no charge.
2. All data contained in WSTS reports is co-owned by WSTS and her members. As such this data is proprietary.
3. Semiconductor Industry Associations hold distribution licenses for certain WSTS reports.
4. Semiconductor Industry Associations may release extracts from WSTS reports to the public domain.
5. WSTS data in the public domain may be freely quoted and reproduced with reference to the source.

Meetings

- WSTS organizes different meetings with different participation and different objectives. Meeting locations are chosen to meet the convenience of the majority of participants. Meetings with worldwide participation rotate between Americas, Europe, Japan and Asia.
- WSTS meetings serve for the purpose of directing the WSTS policy and operation, as forums of information exchange within the semiconductor industry and preparing an industry forecast 3 years ahead.

Meeting Types

- Board of Directors Meeting (min. 2 per year)
 - Supervision of WSTS' activities
- Executive Committee Meeting (min. 2 p. y.)
 - Direction of WSTS' policy and programs
- Committee Meeting (2 p. y.) – all members
 - Reviewing the Status of the Industry
 - Preparing an industry forecast covering the remaining quarters of the year and the 3 future years
 - Steering WSTS programs and activities

Meeting Types *(continued)*

- Regional Chapter Meeting (2 – 4 per year)
 - Reviewing market development in the region
 - Developing regional policies and projects
 - Formulating proposals for format changes
 - Preparing inputs to the worldwide meetings
 - Nominating regional WSTS representatives
- Working Group Meetings
 - Preparing, launching and supporting specific WSTS programs

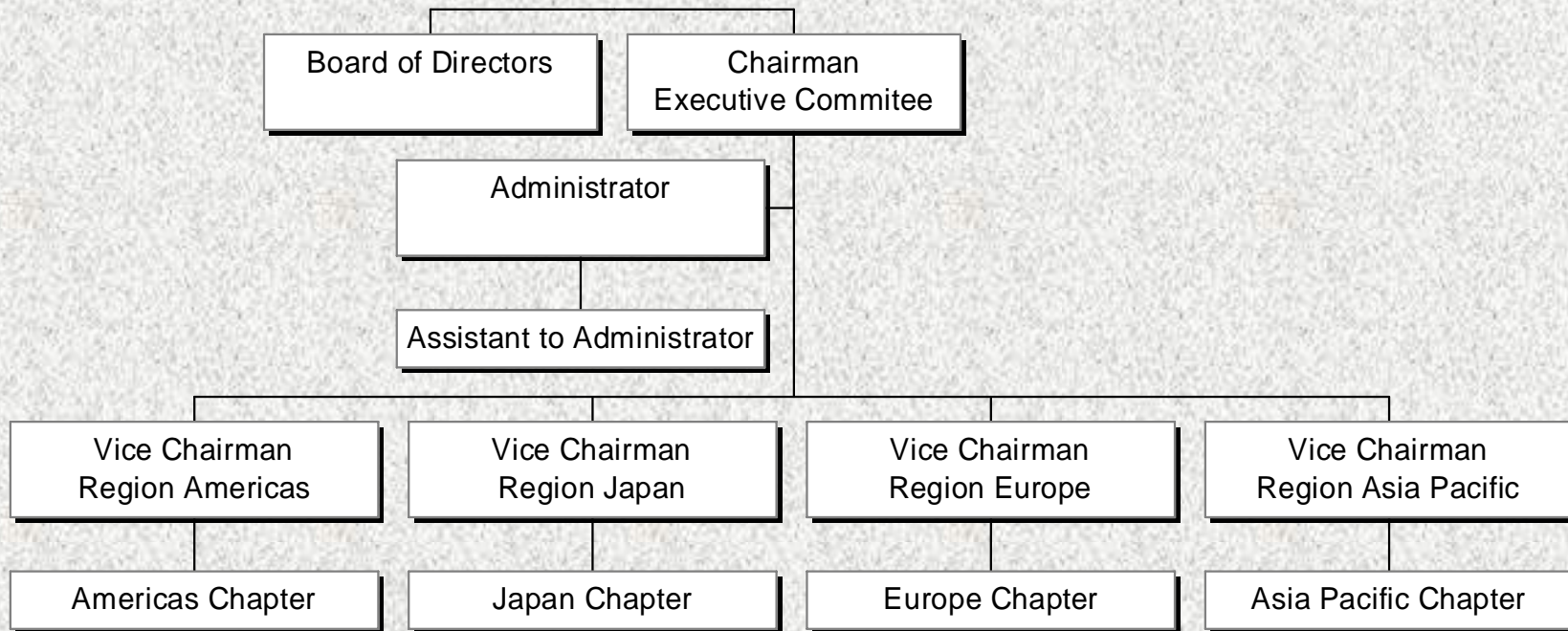
Meeting Outputs

- Board of Directors, Executive Committee, Regional Chapter Meeting
 - Minutes, Resolutions, Appointments
- Committee Meeting
 - Handouts of Presentations (for participants only)
 - Forecast (published on the WSTS Web Site)
- Working Group Meeting
 - Procedures, Manuals, Guidelines, Other Documents

History

- 1975 Semiconductor Trade Statistics Program initiated by SIA
- 1980 STSP began to collect data from other international regions
- 1986 WSTS Inc. was formed as a non-profit California corporation to provide data collection and member services
- 2008 WSTS has 70 member companies representing close to 80% of the worlds semiconductor market

WSTS Organization



All positions except the Administrator and the Assistant Administrator are non-salaried

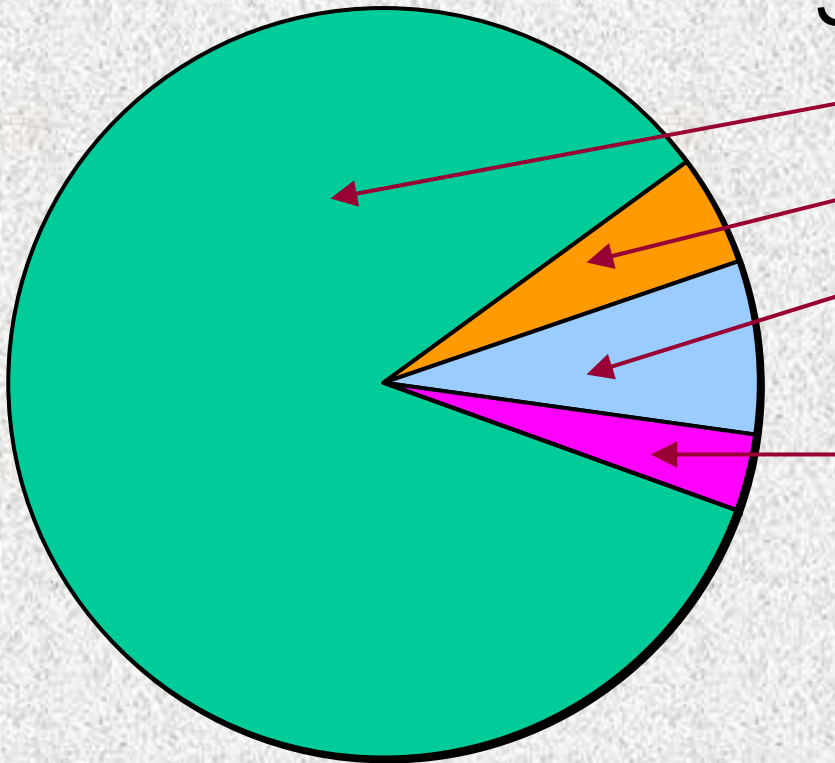
Financials – Revenues

Data for 2006

\$ 709,497

Sources of Revenue

- Membership Fee
- Meeting Fee
- Royalties and Subscriptions
- Interest



More

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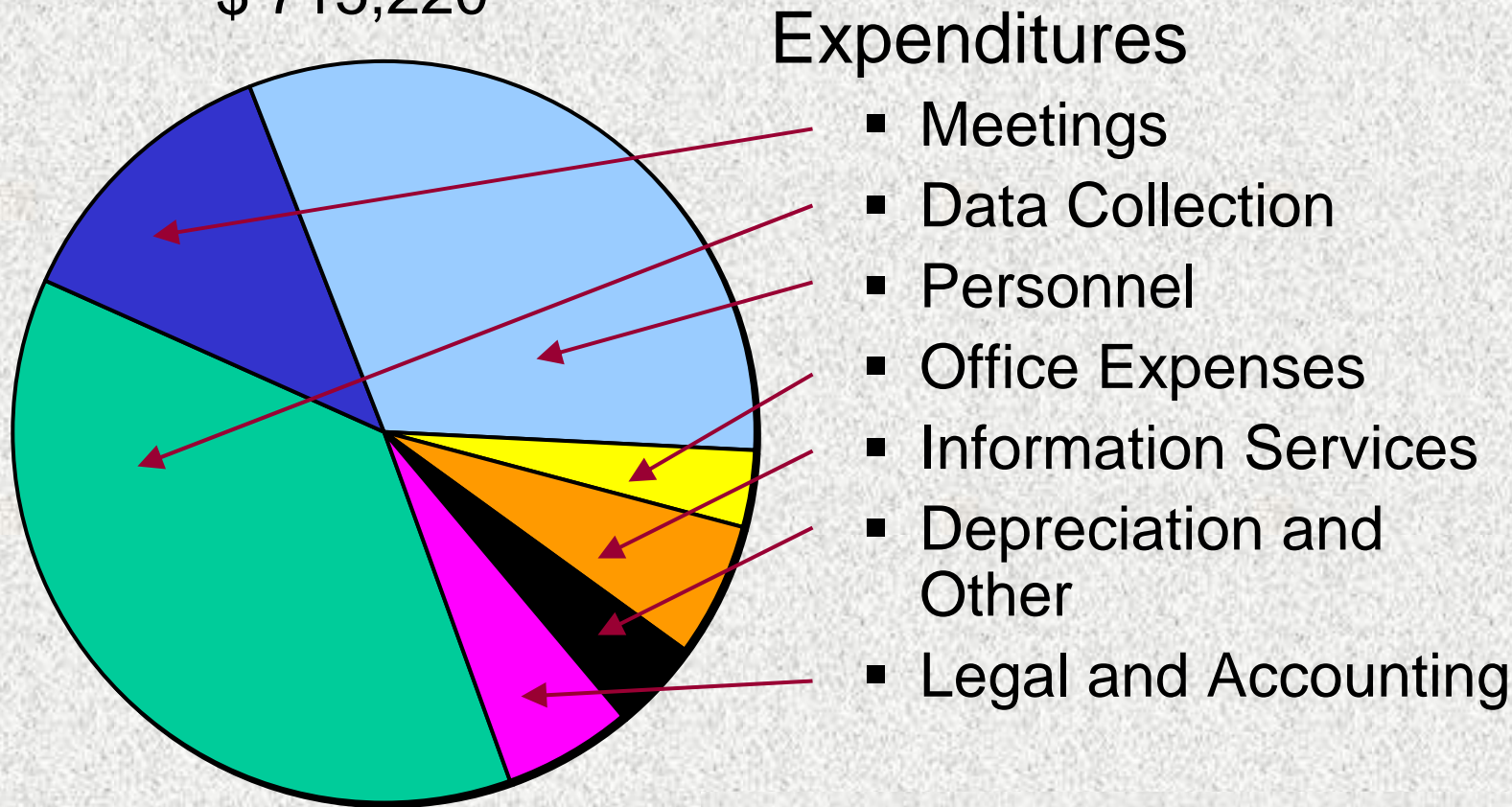


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Financials – Expenditures

Data for 2006

\$ 715,220



Further Information on the WSTS Internet Portal (www.wsts.org)

- Top Menus
 - The menus General, Services and Organization provide further detail information for prospective members
- WSTS Meetings
 - Prospective members may participate in WSTS meetings by invitation. Request an invitation to the Administrator. All information on WSTS meetings (date, location, agenda, participants) is available from the home page

Partnerships with Industry Associations

Semiconductor Industry Associations act as commercial distribution channels for WSTS reports. They serve clients outside the semiconductor industry.

Name of Organization	Served Territories
Japan Council	Japan
ESIA	European Union, Eastern Europe, Middle East, Africa
TSIA	Taiwan, China (+ Hong Kong), Philippines, Malaysia, Indonesia
KSIA	Australia, India, Myanmar, New Zealand, Singapore, Korea, Thailand
SIA	North and Latin America, Rest of the World