World Semiconductor Trade Statistics
An Introduction to WSTS
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Mission Statement

“The mission of WSTS is to be the respected source of semiconductor market data and forecasts.”
Membership

• Membership is organized in four regional groups:
  – Americas
  – Europe
  – Japan
  – Asia Pacific
Americas Regional Group

- Advanced Micro Devices
- Allegro Microsystems
- Alpha & Omega
- Analog Devices, Inc
- Avago Technologies
- Broadcom
- Cypress Semiconductor Corp.
- Diodes, Inc.
- Fairchild Semiconductor
- Freescale Semiconductor
- Gennum Corporation
- IBM Microelectronics
- Intel Corporation
- International Rectifier Corp.
- Intersil
- Linear Technology Corporation
- Littelfuse Teccor
- LSI Logic Corporation
- Maxim Integrated Products
- Micron Technology, Inc.
- National Semiconductor Corp.
- ON Semiconductor
- Semtech Corp.
- Spansion LLC
- Texas Instruments
- TriQuint Semiconductor
- Volterra Semiconductor
- Xilinx

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Europe Regional Group

- Austriamicrosystems
- Fagor Electronica
- Infineon Technologies
- Micronas
- NXP Semiconductors

- Osram GmbH
- Robert Bosch GmbH
- STMicroelectronics
- Vishay
- ZMD
Japan Regional Group

- Elpida Memory Inc.
- Fuji Electric Systems Co.
- Fujitsu Microelectronics
- Hitachi Semiconductors
- Mitsubishi Electric Co.
- Nihon Inter Electronics Corporation
- Panasonic Co.
- Renesas Electronics

- Ricoh Company
- Rohm Co.
- Sanken Electric Co.
- Sanyo Semiconductor Co.
- Seiko Epson Co.
- Sharp Co.
- Shindengen Electric
- Sony Co.
- Toshiba Co.
Asia Pacific Regional Group

- Hynix Semiconductor
- KEC
- Macronix
- Nanya Technology
- PanJit

- Powerchip Semiconductor
- Rectron
- Samsung
- Taiwan Semiconductor
Member Profile By Region
Total Worldwide 64 Members

- Americas 28
- AsiaPac 9
- Europe 10
- Japan 17

January 2011
Member Profile By Membership

Total Worldwide 64 Members

- Regular 60
- Associate 4
Regular versus Associate Membership

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

**Associate Member**
- 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.
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
Sample page from 2007 Blue Book
(Only months 1 to 6 are shown)

<table>
<thead>
<tr>
<th>J0 - STANDARD LINEAR</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Americas</td>
<td>203,208</td>
<td>175,162</td>
<td>213,657</td>
<td>190,328</td>
<td>171,289</td>
<td>187,299</td>
</tr>
<tr>
<td>Europe</td>
<td>204,616</td>
<td>197,332</td>
<td>254,243</td>
<td>207,833</td>
<td>204,111</td>
<td>223,085</td>
</tr>
<tr>
<td>Japan</td>
<td>169,418</td>
<td>172,112</td>
<td>203,140</td>
<td>191,471</td>
<td>175,497</td>
<td>191,476</td>
</tr>
<tr>
<td>Asia Pacific</td>
<td>492,427</td>
<td>466,766</td>
<td>627,262</td>
<td>550,789</td>
<td>537,263</td>
<td>641,701</td>
</tr>
<tr>
<td>WW Dollars</td>
<td>1,069,669</td>
<td>1,011,372</td>
<td>1,298,302</td>
<td>1,140,421</td>
<td>1,088,160</td>
<td>1,243,561</td>
</tr>
<tr>
<td>WW Units</td>
<td>3,489,571</td>
<td>3,452,683</td>
<td>4,338,838</td>
<td>3,628,027</td>
<td>3,644,027</td>
<td>4,247,300</td>
</tr>
<tr>
<td>WW ASP</td>
<td>0.307</td>
<td>0.293</td>
<td>0.299</td>
<td>0.314</td>
<td>0.299</td>
<td>0.293</td>
</tr>
</tbody>
</table>
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 2\textsuperscript{nd}, 3\textsuperscript{rd} and 4\textsuperscript{th} quarter.
### MOS DRAM Forecast 2007

<table>
<thead>
<tr>
<th>MOS DRAM Code</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
</tr>
</thead>
<tbody>
<tr>
<td>Amer - $M</td>
<td>9,628.0</td>
<td>2,467.7</td>
<td>2,132.1</td>
<td>2,294.1</td>
<td>2,514.4</td>
</tr>
<tr>
<td>% of World</td>
<td>28.5</td>
<td>25.6</td>
<td>26.8</td>
<td>26.8</td>
<td>27.5</td>
</tr>
</tbody>
</table>

| 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 |
| % of World   | 15.0 | 15.0 | 14.7 | 14.2 | 14.1 | 14.5 | 14.0 | 13.9 | 13.7 | 13.5 | 13.8 |

| 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 |
| % of World   | 13.6 | 12.3 | 12.3 | 12.1 | 11.8 | 12.1 | 11.8 | 11.8 | 11.8 | 11.8 | 11.8 |

| 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 |
| % of World   | 41.2 | 41.2 | 41.2 | 41.2 | 41.2 | 41.2 | 41.2 | 41.2 | 41.2 | 41.2 | 41.2 |

| 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 |
| % of World   | 42.9 | 42.9 | 42.9 | 42.9 | 42.9 | 42.9 | 42.9 | 42.9 | 42.9 | 42.9 | 42.9 |

### Summary

- **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
- **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
- **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
- **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
- **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
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
<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1975</td>
<td>Semiconductor Trade Statistics Program initiated by SIA</td>
</tr>
<tr>
<td>1980</td>
<td>STSP began to collect data from other international regions</td>
</tr>
<tr>
<td>1986</td>
<td>WSTS, Inc. was formed as a non-profit California corporation to provide data collection and member services</td>
</tr>
<tr>
<td>2011</td>
<td>WSTS, Inc. has 64 member companies representing about 75% of the worldwide semiconductor market</td>
</tr>
</tbody>
</table>
WSTS Organization

Board of Directors

Chairman
Executive Commitee

Administrator

Assistant to Administrator

Vice Chairman
Region Americas
Americas Chapter

Vice Chairman
Region Japan
Japan Chapter

Vice Chairman
Region Europe
Europe Chapter

Vice Chairman
Region Asia Pacific
Asia Pacific Chapter

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

January 2011
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

January 2011
Partnerships with Industry Associations

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

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