Study Overview

- Based on year-end 2011 annual statistics from key players, representing consistent satellite industry segments
- All data reflect global revenues, unless otherwise noted
- Revenue is expressed as in-year U.S. dollars (not adjusted for inflation)
- The SIA’s 15th annual comprehensive study of satellite industry statistics (www.sia.org/IndustryReport.htm)
- Performed by Futron Corporation, the report includes surveys of 80 key companies, including nearly 40 SIA members, augmented with publicly available data and search to derive industry revenues and statistics
  - Response rate among SIA members was 70%
  - Response rate among all companies surveyed was 50%
Satellite Industry Segments Surveyed

**Satellite Services**
- Consumer Services
  - Satellite Television
  - Satellite Radio
  - Satellite Broadband
- Fixed Satellite Services
  - Transponder Agreements
  - Managed Network Services
- Mobile Satellite Services
  - Mobile Data
  - Mobile Voice
- Remote Sensing/Imaging Services
- Space Flight Management Services

**Launch Industry**
- Launch Services
- Launch Vehicles

**Ground Equipment**
- Network Equipment
  - Gateways
  - Control Stations
  - Very Small Aperture Terminals (VSATs)
- Consumer Equipment
  - Direct Broadcast Satellite (DBS) Dishes
  - Mobile satellite terminals (including satellite phones)
  - Digital Audio Radio Service (DARS) Equipment
  - Global Positioning System (GPS) Stand-alone Hardware

**Satellite Manufacturing**
- Satellite Manufacturing
- Parts, Components, and Subsystems
The satellite industry is a subset of both the telecommunications and space industries. Satellite industry revenues represent 61% of space industry revenues and 4% of overall global telecommunications industry revenues.

- The global satellite industry posted growth of 5% in 2011, matching growth in 2010.
- Overall global telecommunications spending rose by 4.9% in 2011, compared with 5.5% in 2010.
  - U.S. telecommunications spending experienced somewhat faster growth of 5.8% in 2011, following slower 2.4% growth in 2010 and a steep decline of 8.2% in 2009.
- Overall global space spending rose by 4.8% in 2011, following 7.7% growth in 2010.

Sources: SIA “State of the Satellite Industry Report 2012”; Telecommunications Industry Association “2012 Playbook”; Space Foundation “The Space Report 2012.” All industry revenue figures are for 2011; Diagram is a notional representation and is not to scale.
Operational Satellites (May 2012)
By Orbit

- LEO = Low Earth Orbit
- MEO = Medium Earth Orbit
- ELI = Elliptical Orbit
- GEO = Geosynchronous Orbit

Of the 994 satellites on orbit, 38% are commercial communications satellites
- An additional 20% are civil government or military communications satellites
- The relative proportion comprised by communications satellites remained consistent from 2011 to 2012

Operational Satellites (May 2012)
By Function

- Commercial Communications 381 (38%)
- Civil Government Communications 113 (11%)
- Remote Sensing 95 (10%)
- Technology Demonstration 53 (5%)
- Space Science 75 (8%)
- Navigation 87 (9%)
- Meteorology 36 (4%)
- Military Communications 86 (9%)
- Military Surveillance 89 (9%)
World satellite industry revenues posted average annual growth of 9% for the period from 2006 through 2011.
Overall satellite industry revenues grew 5% in 2011, with the largest segment, Satellite Services, growing by 6%.
Top-Level Global Satellite Industry Findings

- Overall worldwide satellite industry revenue growth was 5% in 2011, equaling the 5% growth rate in 2010
- All four satellite industry segments posted growth in 2011
  - Satellite Services revenues, the largest segment, grew by 6%, led by a steady increase in DTH subscribers, particularly in emerging markets
  - From 2006 through 2011, Satellite Manufacturing revenues have fluctuated, but aggregate revenues have remained steady
  - From 2006 through 2011, Launch Industry revenues rose by 78% overall, with an average annual growth rate of 10.8%
  - Ground Equipment revenues increased by 2% in 2011, with slower growth in consumer equipment but equally fast growth in network equipment compared to 2010
- U.S. satellite industry employment continued to decline in the first three quarters of 2011, but the rate of net job losses slowed from 2.7% in 2010 to less than 1% in 2011
Global satellite industry revenues grew by 175% for the period from 2001 through 2011, an average of 10.7% growth per year.
World Satellite Services Revenue

Notes:
Numbers may not sum exactly due to rounding.

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<tr>
<th></th>
<th>2006</th>
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<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
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<td>Consumer</td>
<td>$48.9</td>
<td>$57.9</td>
<td>$68.1</td>
<td>$75.3</td>
<td>$83.1</td>
<td>$88.6</td>
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<td>- Satellite TV (DBS/DTH)</td>
<td>$46.9</td>
<td>$55.4</td>
<td>$64.9</td>
<td>$71.8</td>
<td>$79.1</td>
<td>$84.4</td>
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<td>- Satellite Radio (DARS)</td>
<td>$1.6</td>
<td>$2.1</td>
<td>$2.5</td>
<td>$2.5</td>
<td>$2.8</td>
<td>$3.0</td>
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<td>- Satellite Broadband</td>
<td>$0.3</td>
<td>$0.4</td>
<td>$0.8</td>
<td>$1.0</td>
<td>$1.1</td>
<td>$1.2</td>
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<td>Fixed</td>
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<td>$13.0</td>
<td>$14.4</td>
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<td>$10.2</td>
<td>$11.0</td>
<td>$11.1</td>
<td>$11.3</td>
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<td>- Managed Services 2</td>
<td>$2.2</td>
<td>$2.6</td>
<td>$2.8</td>
<td>$3.4</td>
<td>$3.9</td>
<td>$4.3</td>
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<tr>
<td>Mobile (Voice and Data)</td>
<td>$2.0</td>
<td>$2.1</td>
<td>$2.2</td>
<td>$2.2</td>
<td>$2.3</td>
<td>$2.4</td>
</tr>
<tr>
<td>Remote Sensing</td>
<td>$0.4</td>
<td>$0.4</td>
<td>$0.7</td>
<td>$1.0</td>
<td>$1.0</td>
<td>$1.1</td>
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<tr>
<td><strong>Total</strong></td>
<td>$52.8</td>
<td>$72.6</td>
<td>$84.0</td>
<td>$93.0</td>
<td>$101.3</td>
<td>$107.7</td>
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</tbody>
</table>

1. Includes capacity for DTH satellite TV platforms
2. Includes VSAT networks; Space Flight Management services included in Managed Services beginning in 2010
Satellite Services Findings

- Worldwide Satellite Services revenue expanded at 6% in 2011, slightly slower than the 9% growth experienced in 2010
- Consumer Satellite Television services (DBS/DTH), comprising more than 80% of all Satellite Services revenues, posted 7% growth
  - Globally, 7.3 million satellite pay TV subscribers were added in 2010—mainly in emerging Asian markets—bringing the world total to about 154 million
  - The number of U.S. satellite pay TV subscribers grew 5%, to 37 million, maintaining their one-quarter share of the global subscriber base
- Satellite Radio (DARS) revenues also grew by 7% in 2011, exceeding $3 billion for the first time
  - Nearly 1.7 million subscribers were added, an 8% increase
  - Satellite Radio remains primarily a North American market
- Satellite Broadband service revenues increased from $1.1 billion in 2010 to $1.2 billion in 2011
  - The U.S. continues to account for about 70% of global satellite broadband revenues
Satellite Services Findings (2)

- Global Transponder Agreement revenues increased from $11.1 billion in 2010 to $11.3 billion in 2011, a 2% growth rate
  - Revenue growth was evident across companies serving different regions
- Managed Services revenues grew 9%, from $3.9 billion to $4.3 billion
  - Between 2006 and 2011, Managed Services revenues nearly doubled
- Mobile Satellite Services revenues grew by 4%, from $2.3 billion in 2010 to $2.4 billion in 2011
  - In a reverse of the 2010 trend, in 2011 mobile telephony services revenues grew faster than mobile data services
    - Mobile telephony services revenues grew by about 11%, while mobile data services revenues grew by about 3%
    - Mobile data services revenues still comprise about three-quarters of mobile satellite services revenues
- Revenues from remote sensing imagery products and services grew about 10%, from $1 billion in 2010 to $1.1 billion in 2011
Impact of HDTV on Satellite Industry

- Increasing numbers of High Definition Television (HDTV) and cable distribution channels continued to drive revenues for satellite pay TV
- HDTV contributes to both retail and wholesale revenue by driving both transponder agreement revenues and subscriber demand
  - The number of HDTV channels worldwide expanded substantially year-on-year from May 2008 through May 2012
  - Approximately 70% of HDTV channels currently serve the Americas
  - Remaining HDTV channels primarily serve Europe and Asia-Pacific, yet the gap between these markets and the Americas indicates significant growth potential

![Number of HD Channels](chart)

- May 2008: 1,353
- May 2009: 1,492
- May 2010: 2,710
- May 2011: 3,853
- May 2012: 4,768
Satellite Manufacturing Revenues

Note: Satellite Manufacturing revenues are recorded by this study in the year the satellite is launched, using information based upon unclassified sources. World revenue includes U.S. revenue.

The U.S. share of global satellite manufacturing remained constant at 52%

Average: $11.7B +/- 15%

Two-thirds of 2011 U.S. satellite manufacturing revenues derived from government contracts.
Satellite Manufacturing Findings

- Global Satellite Manufacturing revenues grew 9%, from $10.8 billion to $11.9 billion
  - In 2011, larger numbers of spacecraft were completed and deployed in orbit compared with 2010
  - Seven more commercial communications satellites, which tend to yield higher-value manufacturing revenues, were launched in 2011 than in 2010
- U.S. Satellite Manufacturing revenues increased by 10%, from $5.6 billion in 2010 to $6.2 billion in 2011
  - U.S. firms built 22% of the spacecraft launched in 2011, but earned more than half of satellite manufacturing revenues, reflecting production weighted toward more technologically sophisticated satellites
- Europe accounted for 32% of 2011 Satellite Manufacturing revenues
- Asia accounted for 15% of 2011 Satellite Manufacturing revenues

<table>
<thead>
<tr>
<th>Mission Type</th>
<th>Number of Spacecraft</th>
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<tbody>
<tr>
<td>Commercial Communications</td>
<td>31</td>
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<tr>
<td>Civil/Military Communications</td>
<td>9</td>
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<tr>
<td>Meteorological</td>
<td>4</td>
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<tr>
<td>Navigation</td>
<td>12</td>
</tr>
<tr>
<td>Space Science</td>
<td>10</td>
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<tr>
<td>Remote Sensing</td>
<td>10</td>
</tr>
<tr>
<td>Military Surveillance</td>
<td>14</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>90</strong></td>
</tr>
</tbody>
</table>

* Does not include government-built, university-built, and/or research satellites
Satellite Manufacturing: Future Indicators

**Commercial geosynchronous orbit (GEO) spacecraft orders:**

- 21 commercial GEO satellite manufacturing orders were announced in 2011 for future delivery, down one-quarter from the 28 orders announced in 2010
  - 9 of these orders, or 43%, went to U.S. manufacturers—a decrease from the 57% orders of orders won by U.S. vendors in 2010
  - 6 orders, or 29%, went to European manufacturers—an increase over the 21% of orders won by European vendors in 2010
  - 3 orders, 14%, went to Chinese manufacturers—double the Chinese share in 2010
  - 2 orders, 10%, went to Japanese manufacturers—an increase over 2010, when Japan posted no commercial GEO orders
  - 1 order, 5%, went to a Russian manufacturer—a sharp decrease from the four orders received in 2010
Satellite Launch Industry Revenues

Note: Launch Industry revenues are recorded by this study in the year the launch is conducted, using information based upon unclassified sources. World revenue includes U.S. revenue.

U.S. launch revenues rose from $1.2 billion to $1.9 billion, increasing the U.S. share of global revenue from 27% in 2010 to 39% in 2011.

Average: $3.9B
+- 31%

70% of 2011 U.S. launch revenues derived from government contracts.
Satellite Launch Industry Findings

- Worldwide Launch Industry revenues increased by 10% in 2011, compared with a 4% decline in 2010
  - Launches for government customers remained the major revenue driver in 2011, accounting for 59% of all commercially-procured launch revenues—an increase from 54% in 2010
  - The number of commercially-procured launches increased marginally, from 54 in 2010 to 56 in 2011
  - The average revenue per launch increased due to a greater number of heavier-class launches
- European, Russian, and Asian launch revenues comprised 25%, 19%, and 17% of the global total, respectively

<table>
<thead>
<tr>
<th>Orbit Type</th>
<th>Number of Launches</th>
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<tr>
<td>Geosynchronous (GEO)</td>
<td>24</td>
</tr>
<tr>
<td>Low Earth Orbit (LEO)</td>
<td>23</td>
</tr>
<tr>
<td>Medium Earth Orbit (MEO)</td>
<td>9</td>
</tr>
</tbody>
</table>

* Does not include launches conducted by government entities for government customers outside of commercial procurement processes
Future commercial launch orders:
- Commercial launch orders announced in 2011 dropped to 30, compared with 49 in 2010
  - U.S. launch providers received 3 of these orders, a 10% share, down sharply from the 41% of orders announced for U.S. firms in 2010
  - European launch providers received 14 of these orders, or 47%, a significant increase compared with the 29% of orders announced for European firms in 2011
  - Russian launch providers received 8 of these orders, or 27%, a slight increase over their 22% share in 2010
  - The remaining 5 orders were split between the China Great Wall Industry Corporation and the multinational firm Sea Launch

### 2010 Orders

- U.S. 20 (41%)
- Russia 11 (22%)
- Europe 14 (29%)
- Multinational 2 (4%)
- China 2 (4%)

### 2011 Orders

- Europe 14 (47%)
- Russia 8 (27%)
- China 3 (10%)
- Multinational 2 (6%)
- U.S. 3 (10%)
World Ground Equipment Revenues

Includes:

Network Equipment — Gateways, Network Operations Centers (NOCs), Satellite News Gathering (SNG) equipment, flyaway antennas, and Very Small Aperture Terminals (VSATs)

Consumer Equipment — Satellite TV and broadband dishes, mobile satellite terminals, and stand-alone GPS devices, not including chipsets used in devices (such as smartphones) whose primary use is not satellite navigation
Ground Equipment Findings

- Overall revenue in the Ground Equipment segment increased by 2% in 2011, down slightly from 3% growth the prior year
  - Network equipment sales (including VSATs and other terminals) grew at 9% in 2011, compared with 8% in 2010
  - Consumer equipment terminal sales grew at 2% in 2011, comparable with 3% in 2010
- Relative shares within the segment remained fairly constant, with about 16% for Network Equipment revenues and 84% for Consumer Equipment revenues
  - Stand-alone GPS equipment sales (personal navigation devices, in-vehicle navigation systems, shipment tracking devices, and precision measurement instruments) reached 110 million units sold in 2011, representing about 70% of the Consumer Equipment market
• The number of Consumer Ground Equipment terminals in service grew across all segments

<table>
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<tr>
<th>Terminals in Service (Millions)</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
<th>2010</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellite TV</td>
<td>88.7</td>
<td>100.5</td>
<td>133.6</td>
<td>141.3</td>
<td>146.8</td>
<td>154.1</td>
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<td>Satellite Radio</td>
<td>14.2</td>
<td>18.0</td>
<td>20.4</td>
<td>20.4</td>
<td>20.2</td>
<td>21.9</td>
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<tr>
<td>Satellite Broadband</td>
<td>0.8</td>
<td>1.0</td>
<td>1.3</td>
<td>1.1</td>
<td>1.2</td>
<td>1.3</td>
</tr>
<tr>
<td>Mobile Satellite Voice and Data Services</td>
<td>1.8</td>
<td>1.8</td>
<td>1.9</td>
<td>1.9</td>
<td>2.1</td>
<td>2.3</td>
</tr>
<tr>
<td>Mobile Satellite TV</td>
<td>0.6</td>
<td>0.7</td>
<td>1.0</td>
<td>1.5</td>
<td>1.8</td>
<td>1.9</td>
</tr>
</tbody>
</table>

- Satellite TV subscribers grew by 7.3 million, with more than 60% of subscriber additions coming from emerging markets
- Following a slight decline in 2010, satellite radio subscribers grew by 1.7 million in 2011
- As in 2010, growth of consumer satellite broadband subscribers in 2011 occurred primarily in the U.S.
- Mobile Satellite TV (S-DMB) revenues derive from new hand-held video services available primarily in Asian markets
• U.S. satellite companies shed 14,309 jobs, or 5.6%, between 2006 and 3Q 2011
• Since reaching a recent employment peak in 2008, the industry has lost 21,877 jobs (an 8.3% decline), linked to the global economic downturn
• Three of the four industry segments experienced job losses in 2011
  - Satellite Services lost 1,087 jobs, or 1.4%
  - Satellite Manufacturing shed a net 941 jobs, or 3.5%
  - Launch Industry employment declined by 1,565 jobs, a decline of 3.2%
• The Ground Equipment segment grew by 1,424 jobs, or 1.6%

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<thead>
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<tr>
<td>Satellite Services</td>
<td>69,377</td>
<td>83,993</td>
<td>84,267</td>
<td>81,047</td>
<td>75,623</td>
<td>74,536</td>
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<td>Satellite Manufacturing</td>
<td>32,368</td>
<td>26,724</td>
<td>28,014</td>
<td>26,854</td>
<td>26,611</td>
<td>25,670</td>
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<td>Launch Industry*</td>
<td>51,262</td>
<td>50,670</td>
<td>52,007</td>
<td>51,984</td>
<td>49,195</td>
<td>47,630</td>
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<td>Ground Equipment</td>
<td>102,367</td>
<td>96,190</td>
<td>98,663</td>
<td>90,651</td>
<td>91,805</td>
<td>93,229</td>
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<tr>
<td>Total</td>
<td>255,374</td>
<td>257,577</td>
<td>262,952</td>
<td>250,536</td>
<td>243,234</td>
<td>241,065</td>
</tr>
</tbody>
</table>

* Includes launch tracking and telemetry services

Source: U.S. Bureau of Labor Statistics (BLS). All figures are through 3Q 2011 — the most recent complete data as of June 2012

Figures derived from three inputs: BLS Current Employment Statistics Survey (CES); BLS Quarterly Census of Employment and Wages (QCEW); U.S. Census Bureau North American Industry Classification System (NAICS)

Estimates are rounded to the nearest job.
• Global satellite industry growth continues at a steady rate of 5%
• Worldwide Satellite Services revenues grew by 6%
  - Satellite Services is by far the largest segment, representing 61% of global satellite industry revenues, and remains the primary growth driver for other industry segments
• Global Satellite Manufacturing revenues grew by 9%, while U.S. satellite manufacturing revenues increased by 10%
• Global Launch Industry revenues grew by 10%, with the U.S. share rising from 27% to 39%
• Ground Equipment revenue growth rose 2%, reflecting steady demand for consumer and network equipment
• U.S. satellite industry job losses continued through 3Q 2011, but the pace of downsizing slowed
All previous reports are available on the SIA website, www.sia.org

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