Methodology

• The study is performed by Futron Corporation for SIA in cooperation with the Global VSAT Forum (GVF) and the Satellite Broadcasting and Communications Association (SBCA).

• The study is based on a survey that targets large companies operating in four satellite industry segments:
  • Satellite Services
  • Launch Industry
  • Satellite Manufacturing
  • Ground Equipment Manufacturing

• Survey questions are geared to gather employment, revenue, and other relevant information specific to each industry segment.

• Futron augments survey data with publicly available data to provide the complete industry picture.
Methodology

- Launch Industry data include launch services provided by private companies for both commercially owned and government owned payloads.
- Launch Industry data does not include Shuttle launches or ISS missions.
- Satellite Manufacturing data include manufacturing activity by private companies for both commercial and government customers.
- All Launch Industry and Satellite Manufacturing revenues are recognized in the year of launch, not the year the contract is awarded.
- All revenues are in then-year dollars (not adjusted for inflation).
Satellite Industry Overview

Satellite Manufacturing
- Satellite Manufacturing
- Component and Subsystem Manufacturing

Satellite Services
- DBS/DARS
- Fixed Satellite Services
  - Voice, Video, Data
  - VSATs
  - Remote sensing
  - Transponder leasing
- Mobile Satellite Services
  - Mobile Telephony
  - Data/Messaging

Ground Equipment
- Mobile Terminals
- Gateways
- Control stations
- VSATs & USATs
- DBS dishes
- Handheld phones

Launch Industry
- Launch Services
- Vehicle Manufacturing
- Component and Subsystem Manufacturing
World Satellite Industry Revenues

Revenue (in billions)

<table>
<thead>
<tr>
<th>Year</th>
<th>Revenue</th>
<th>Rate of change</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>$38.0</td>
<td>29.3%</td>
</tr>
<tr>
<td>1997</td>
<td>$49.1</td>
<td>12.1%</td>
</tr>
<tr>
<td>1998</td>
<td>$55.0</td>
<td>9.7%</td>
</tr>
<tr>
<td>1999</td>
<td>$60.4</td>
<td>22.1%</td>
</tr>
<tr>
<td>2000</td>
<td>$73.7</td>
<td>6.6%</td>
</tr>
<tr>
<td>2001</td>
<td>$78.6</td>
<td>9.6%</td>
</tr>
<tr>
<td>2002</td>
<td>$86.1</td>
<td>5.7%</td>
</tr>
<tr>
<td>2003</td>
<td>$91.0</td>
<td></td>
</tr>
</tbody>
</table>
World Revenues By Sector

<table>
<thead>
<tr>
<th>Year</th>
<th>Satellite Services</th>
<th>Satellite Manufacturing</th>
<th>Launch Industry</th>
<th>Ground Equip. Manufacturing</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>$15.8B</td>
<td>$8.3B</td>
<td>$21.1B</td>
<td>$9.7B</td>
</tr>
<tr>
<td>1997</td>
<td>$24.4B</td>
<td>$12.4B</td>
<td>$21.1B</td>
<td>$12.5B</td>
</tr>
<tr>
<td>1998</td>
<td>$29.7B</td>
<td>$12.4B</td>
<td>$21.1B</td>
<td>$13.9B</td>
</tr>
<tr>
<td>1999</td>
<td>$39.2B</td>
<td>$11.5B</td>
<td>$21.1B</td>
<td>$16.0B</td>
</tr>
<tr>
<td>2000</td>
<td>$46.5B</td>
<td>$5.3B</td>
<td>$21.1B</td>
<td>$17.7B</td>
</tr>
<tr>
<td>2001</td>
<td>$49.1B</td>
<td>$3.0B</td>
<td>$21.1B</td>
<td>$19.6B</td>
</tr>
<tr>
<td>2002</td>
<td>$55.9B</td>
<td>$3.7B</td>
<td>$21.1B</td>
<td>$21.2B</td>
</tr>
<tr>
<td>2003</td>
<td>$91.0B</td>
<td>$3.2B</td>
<td>$21.1B</td>
<td>$22.1B</td>
</tr>
</tbody>
</table>
### U.S. Market Share

<table>
<thead>
<tr>
<th>Year</th>
<th>World</th>
<th>U.S.</th>
<th>U.S. % of World</th>
</tr>
</thead>
<tbody>
<tr>
<td>1996</td>
<td>$38.0</td>
<td>$16.1</td>
<td>43%</td>
</tr>
<tr>
<td>1997</td>
<td>$49.1</td>
<td>$22.1</td>
<td>45%</td>
</tr>
<tr>
<td>1998</td>
<td>$55.0</td>
<td>$25.5</td>
<td>46%</td>
</tr>
<tr>
<td>1999</td>
<td>$60.4</td>
<td>$27.1</td>
<td>45%</td>
</tr>
<tr>
<td>2000</td>
<td>$73.7</td>
<td>$31.2</td>
<td>42%</td>
</tr>
<tr>
<td>2001</td>
<td>$78.6</td>
<td>$32.7</td>
<td>42%</td>
</tr>
<tr>
<td>2002</td>
<td>$86.1</td>
<td>$35.4</td>
<td>41%</td>
</tr>
<tr>
<td>2003</td>
<td>$91.0</td>
<td>$41.4</td>
<td>45%</td>
</tr>
</tbody>
</table>

**Chart Description:**
- The chart illustrates the revenue in billions for the world and U.S. markets from 1996 to 2003.
- The U.S. % of World column shows the percentage of the world market share held by the U.S. each year.
Satellite Industry Findings

- The world satellite industry revenues have grown every year since SIA/Futron began tracking the industry. Average annual growth during this time period is 13%.

- In 2003, the world satellite industry growth slowed to about 6%, lower than the 10% growth experienced in 2002 and significantly lower than the high of almost 30% recorded in 1997.

- Revenues from Satellite Services and Ground Equipment segments increased in 2003, while the Satellite Manufacturing and Launch segments continued to suffer losses.

- The Satellite Services segment share of total revenues has grown over the study period, increasing from 42% of the total in 1996 to over 60% in 2003.
**World Satellite Services Revenue**

FSS = VSAT services, remote sensing, and transponder leasing
MSS = Mobile telephone and mobile data
DBS/DARS = DTH TV, DARS, and Broadband
Satellite Services Findings

• The Satellite Services sector has more than tripled in size from 1996 to 2003.

• Subscription and Retail Services had the greatest growth of all industry segments in 2003, with a 15% growth rate.
  - Direct-to-Home TV services continued to drive overall growth.
  - Revenues for mobile phone services and remote sensing received a boost in 2003 from increased government spending due to military activities.
  - Satellite Radio Services experienced over 400% revenue growth in 2003, although revenues still account for less than 1% of overall satellite service revenues.

• Transponder Leasing reversed a two-year decline and posted a 7% revenue gain in 2003, primarily due to increased government spending.
Satellite Manufacturing Revenues

N.B. – Satellite Manufacturing revenues are recorded in the year the satellite is delivered/launched, not when contract is awarded.
Satellite Manufacturing Findings

- Global Satellite Manufacturing Revenues dropped by 19% in 2003, while U.S. Satellite Manufacturing revenues grew by a modest 5%.

- There continues to be no single, consistent trend in global satellite manufacturing sector revenue.

- The last 3 years’ average (2001-2003) for the U.S. is down by 35% compared to the prior years (1996-2000).

- However, the number of U.S. manufactured payloads remained constant in 2003 compared to 2002. Moreover, the average value of those payloads increased in 2003, resulting in an increase in revenues compared to 2002.
Launch Industry Revenues

N.B. - Launch Industry revenues are recorded in the year the launch occurs, not when contract is awarded.
Launch Industry Findings

• Global Launch Industry revenues fell by almost 14% in 2003 as a result of an overall drop in the number of launches.

• U.S. Launch Industry revenues more than doubled in 2003, which was entirely due to an increase in the number of launches for U.S. government customers.

• In 2003 the U.S. captured more than 65% of total launch revenues, compared to 27% in 2002, due to increased U.S. government launch activity and the sharp decline in European launches.

• In 2003 there were roughly 14 new commercial GEO launch orders (7 for ILS, 1 for SeaLaunch, 4 for Ariane, 1 for Kosmotras, 1 for Eurockot)
Global Supply vs. Demand
GEO Communications Satellites and Launches

Number of Satellites/Launches


Launches
Satellites Ordered
Satellite Capacity
Launch Capacity

Legend:

- Blue: Launches
- Purple: Satellites Ordered
- Black: Satellite Capacity
- Pink: Launch Capacity
World Ground Equipment Revenues

Includes: Gateways, NOCs, Satellite News Gathering equipment, flyaways, VSATs, DBS Dishes, DARS equipment, satellite phone booths, satellite phones
Ground Equipment Findings

• The Ground Equipment sector has been a consistent performer during the survey period, growing by about 4% in 2003.

• The sector has experienced an average annual growth rate of 12.5% over the last 7 years.

• Ground Equipment prices have been going down and major infrastructure investments have been virtually flat.

• Despite declining prices for hardware, the number of units sold for end user applications has been growing. Greatest revenue growth is in end user equipment for VSAT, DTH TV, high speed Internet, and satellite radio services.
Industry Analysis

• In 2003, global satellite industry revenues continued to grow. However, this was due almost entirely to the growth in the Satellite Services sector. Government spending and strong consumer demand for video services were responsible for much of this growth.

• The Ground Equipment sector experienced reduced revenue growth due to downward pricing pressures on VSATs and consumer electronics.

• Despite falling prices and profit margins, several trends indicate growth for the satellite industry over the next few years:
  - Increase in satellite orders announced in 2003 (19)
  - Increase in Government/Military spending
Supplemental Slides
Satellites Are Critical Infrastructure

- National Security
  - Command, Control, Surveillance
  - Bandwidth To Warfighter
- Homeland Security
  - Lifeline for emergency workers
  - Infrastructure monitoring
- Economic Security
  - Internet Backbone
  - GPS (position, navigation, timing)
  - Primary News Source (Cable Delivery + SNG)
  - Only Option For Rural America
  - Day-to-day activities (pump gas, eat out, shop)
Recent Industry Events

- Early 2003 – GAO Report re: Commercial Satellite Infrastructure
  - “Satellites Should Be Considered Critical Infrastructure”
- Late 2003 – GAO Report re: DoD’s Procurement Of Commercial SATCOM
  - “Satellites Are Critical To Warfighter”
- Early 2004 – NSTAC Satellite Task Force Report to President
- Early 2004 – Meeting Between CEO’s and DOD Principals from USSTRATCOM, Joint Staff, Air-Force, and DISA.
  - “Partnership Needed Between Industry and Govt. re: Commercial SATCOM Resources for the war-fighter”
Satellite Industry Issues

Satellite Services
- Excess Capacity/Lower Transponder Rates
- Changing Business Case for New/Replacement Satellites
  - Higher Insurance Costs
  - Industry Consolidation

DBS/DARS
- Access To Adequate Spectrum
- Competition With Terrestrial “Giants”

Satellite Manufacturing/Launch
- Overcapacity
- Export Controls

Ground Equipment
- Interference with Terrestrial/Unlicensed Devices
- Foreign Licensing/Market Access