State of the Satellite Industry Report

June 2008

Sponsored by the SIA Satellite Industry Association

Prepared by
Futron Corporation

Study Overview

- The latest comprehensive satellite industry statistics in SIA's series of annual studies
- Performed by Futron Corporation, the report includes surveys of SIA members and key companies in the industry, augmented with publicly available data and research to derive industry revenues and statistics
- The study includes year-end data for four satellite industry segments:
  - Satellite Services
  - Satellite Manufacturing
  - Launch Industry
  - Ground Equipment

Satellite Industry Overview

Satellite Manufacturing
- Satellite Manufacturing
- Component and Subsystem Manufacturing

Ground Equipment
- Network Equipment
  - Mobile Terminals
  - Gateways
  - Control Stations
  - Very Small Aperture Terminals (VSATs)
- Consumer Equipment
  - Direct Broadcast Satellite (DBS) Dishes
  - Handheld Phones
  - Digital Audio Radio Service (DARS) Equipment
  - Global Positioning System (GPS) Primary-Use Hardware

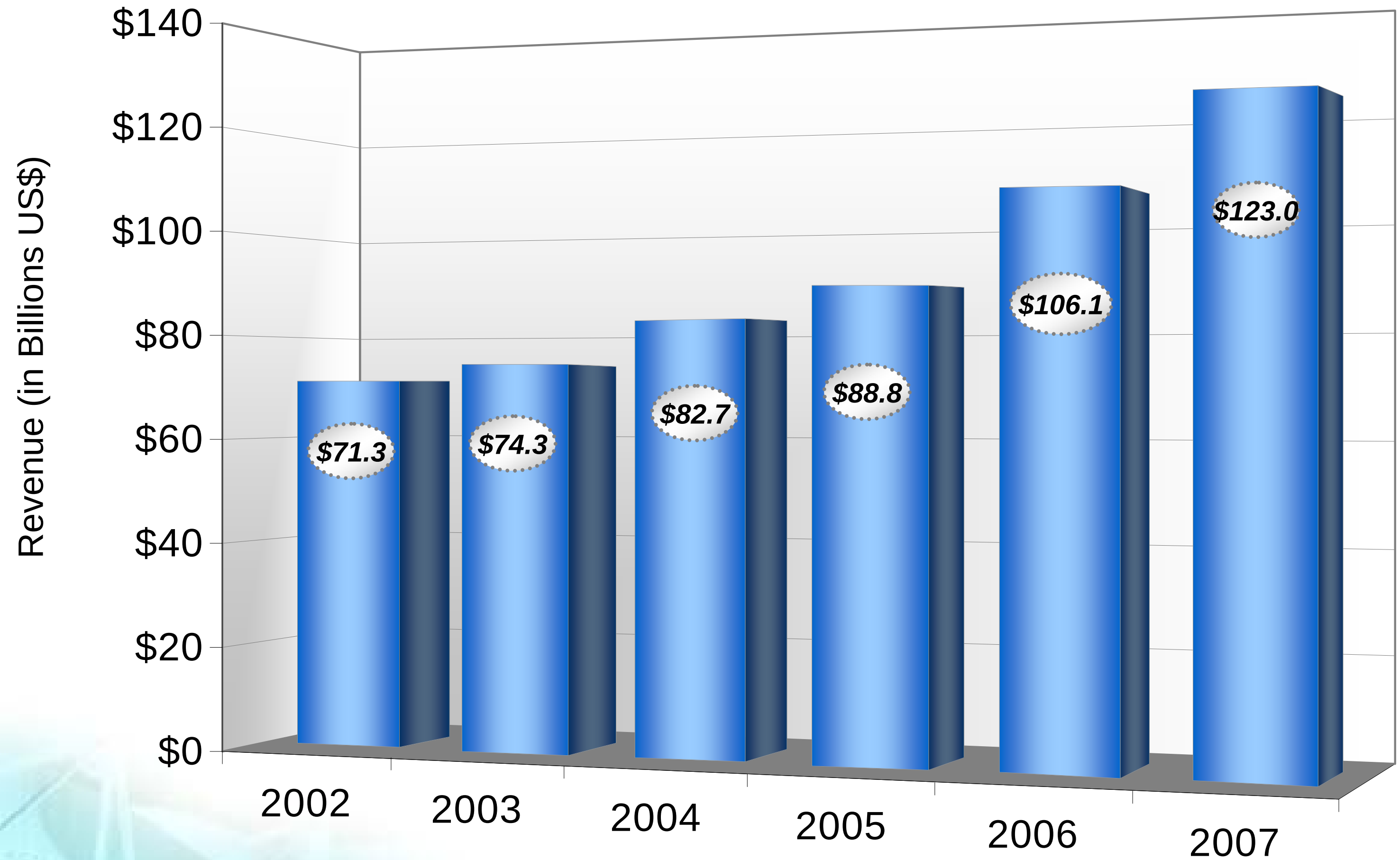
Satellite Services
- Mobile
  - Mobile Data
  - Mobile Voice
- Fixed and Other
  - Broadband
  - Private Networks
  - Transponder Agreements
  - Remote Sensing
- Broadcasting
  - Satellite Television
  - Satellite Radio

Launch Industry
- Launch Services
- Vehicle Manufacturing
- Component and Subsystem Manufacturing

Methodology Notes

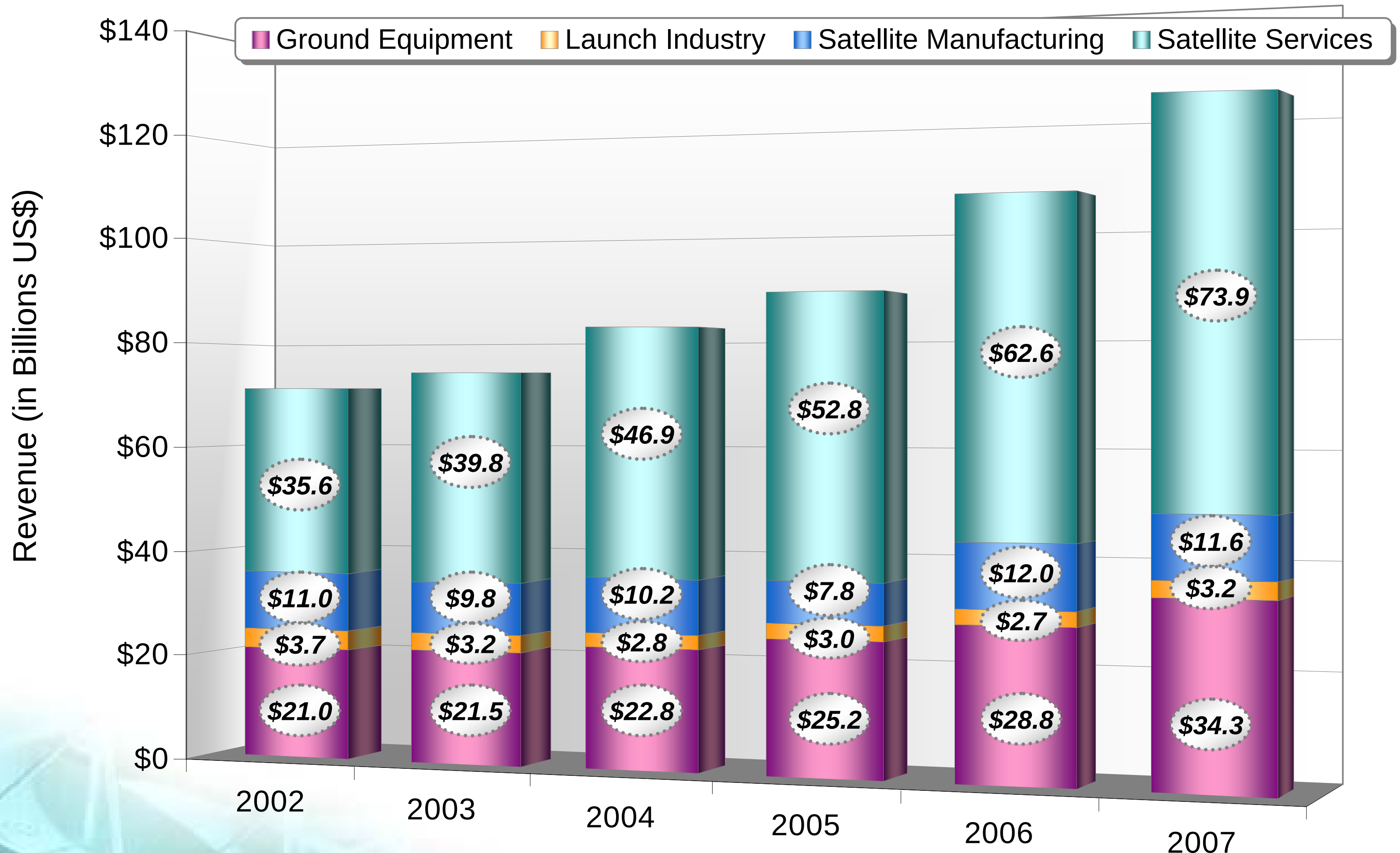
- Satellite Manufacturing data
  - Include commercial manufacturing activity for both commercial and government customers
- Launch Industry data
  - Include services provided by private companies for both commercially-owned and government-owned payloads
  - Do not include government launches, such as Shuttle launches or ISS missions
- All Launch Industry and Satellite Manufacturing revenues are recognized in the year of launch
- Revenue is expressed in real-year U.S. dollars (not adjusted for inflation)

World Satellite Industry Revenues



World satellite industry revenues had average annual growth of 11.5% for the period 2002-2007

World Revenues By Sector



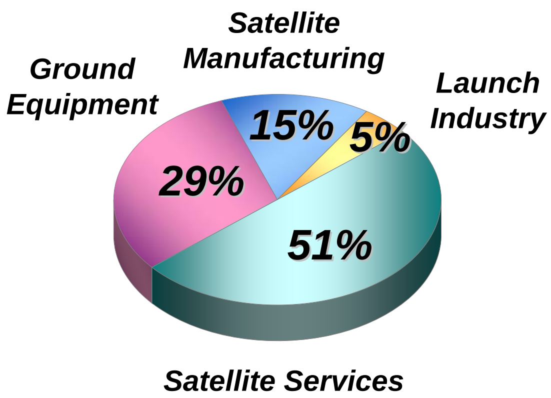
Satellite Services showed continued strong growth of 18%, solidifying its role as the driver of this industry

Satellite Industry Findings

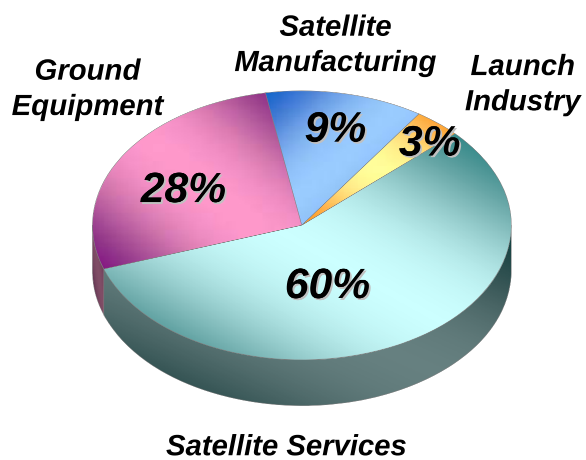
- Overall worldwide industry revenue growth was 16% from 2006 to 2007, compared with a 19.5% increase from 2005 to 2006, led by the Satellite Services sector
- Satellite Services increased slightly more than 18% from 2006 to 2007, largely due to growth in satellite television revenues
- Although more satellites launched in 2007 than in 2006, Satellite Manufacturing revenues declined slightly, reflecting an increase in the number of micro-satellites launched
- Launch Industry revenues grew nearly 19% from 2006 to 2007—an improvement over 2005 to 2006
- Ground Equipment revenues, driven by strong sales of consumer hardware for a range of applications, grew 19% over 2006 levels

World Revenues By Sector

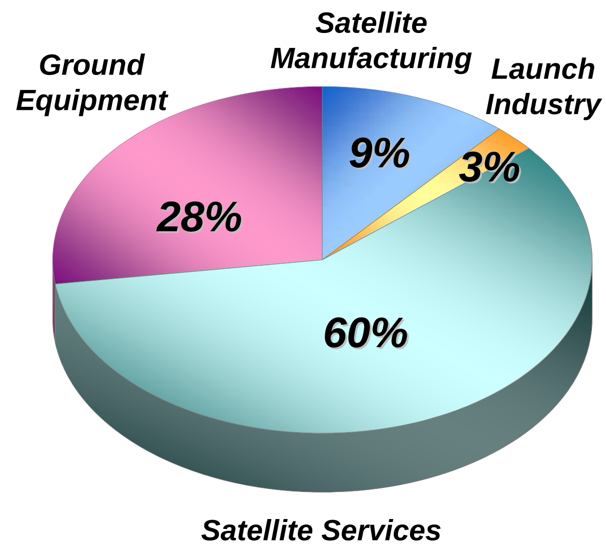
2002
US$71.3 Billion



2005
US$88.8 Billion

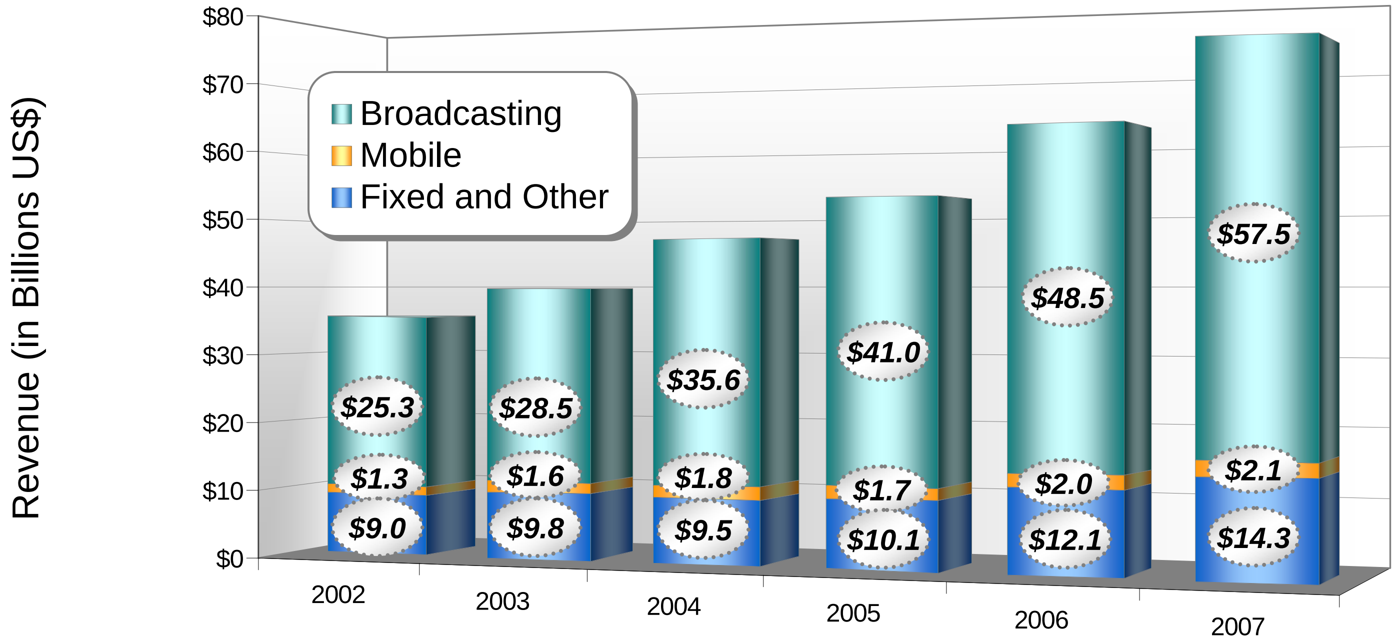


2007
US$123.0 Billion



Ground Equipment | Launch Industry | Satellite Manufacturing | Satellite Services

World Satellite Services Revenue



	2002	2003	2004	2005	2006	2007
Broadcasting	**$25.3**	**$28.5**	**$35.6**	**$41.0**	**$48.5**	**$57.5**
- Satellite Radio (DARS)	$0.0	$0.1	$0.3	$0.8	$1.6	$2.1
- Satellite TV (DBS/DTH)	$25.3	$28.4	$35.3	$40.2	$46.9	$55.4
Mobile [1]	**$1.3**	**$1.6**	**$1.8**	**$1.7**	**$2.0**	**$2.1**
Fixed and Other [2]	**$9.0**	**$9.8**	**$9.5**	**$10.1**	**$12.1**	**$14.3**
- End-User Broadband	$0.2	$0.3	$0.2	$0.3	$0.3	$0.4
Total	**$35.6**	**$39.8**	**$46.9**	**$52.8**	**$62.6**	**$73.9**

1. Mobile Satellite Services: telephony and data
2. Fixed Services/Other: Transponder agreements, network management services; Remote Sensing; and end-user broadband

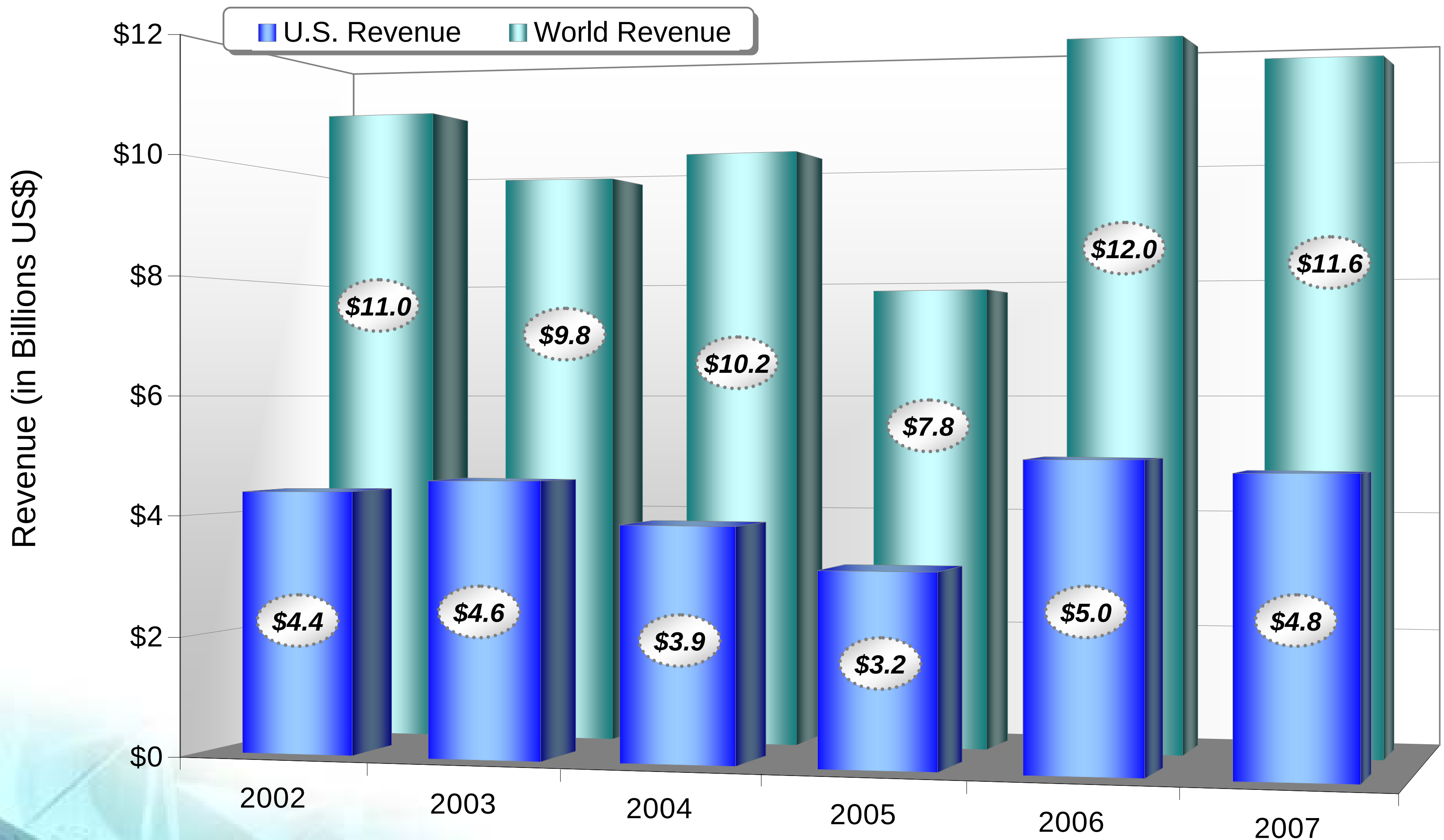
Satellite Services Findings

- Satellite Services growth of 18% in 2007 was almost as robust as the 19% growth in 2006
- Satellite television and DBS, representing three-quarters of total satellite services revenues in 2007, increased 18% overall to $55.4 billion
  - Satellite pay TV subscribers increased by about 13% over 2006 levels, surpassing 100 million globally
- Transponder agreement revenues represent the core of the fixed satellite services sector, and continued to grow, increasing 21% in 2007
  - Includes contracts for full or partial transponders and occasional use services

Satellite Services Findings (2)

- Data applications drove mobile satellite services growth
  - Mobile data services revenues grew by 14%, compared to 10% in 2006, and now represent almost 60% of all mobile satellite services
  - While satellite mobile telephony remains a key enabler of emergency communications around the world, revenues for this sector declined by 4% in 2007
- Satellite radio (DARS) continued to experience strong growth
  - Revenues increased by almost one-third, from $1.58 billion in 2006 to $2.1 billion in 2007
  - Subscribers increased by 27%, from 14.2 million in 2006 to approximately 18 million in 2007

Satellite Manufacturing Revenues



Note: Satellite Manufacturing revenues are recorded in the year the satellite is delivered/launched, not when contract is awarded. World revenue includes U.S. revenue.

Satellite Manufacturing Findings

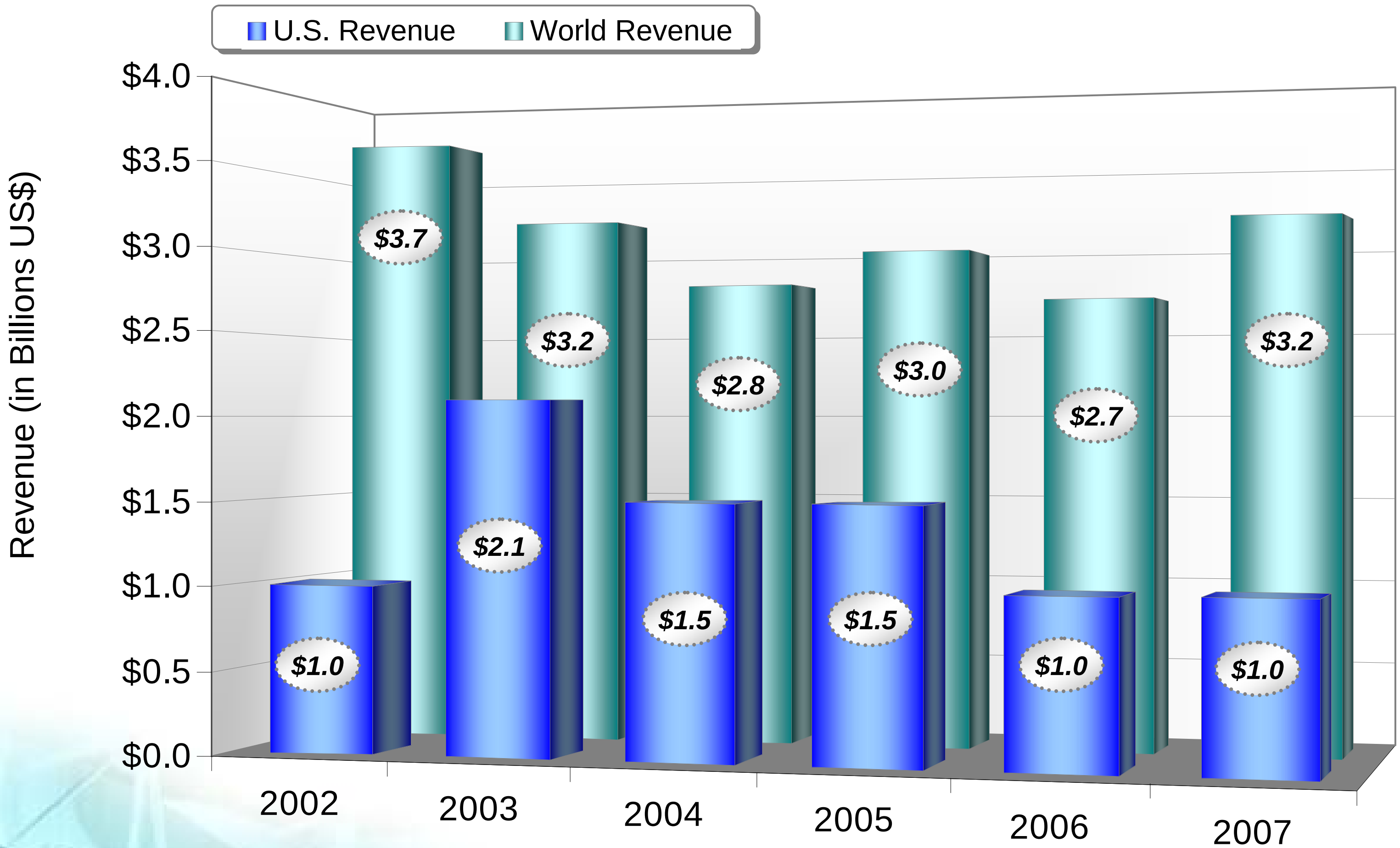
- Global Satellite Manufacturing revenues decreased marginally from $12 billion in 2006 to $11.6 billion in 2007
- U.S. manufacturing revenues, which account for 41% of the worldwide total, also declined slightly, from $5 billion in 2006 to $4.8 billion in 2007
- One cause of the minor revenue decline was the higher proportion of micro-satellites* launched, each representing lower revenue than would larger spacecraft
  - 102 satellites were launched in 2007—one more than in 2006
  - Of these 102 satellites, 16 were micro-satellites, compared to 9 such satellites in 2006

* For this study, micro-satellites are defined as payloads weighing 50 kilograms or less. Micro-satellites manufactured by universities or non-profits were excluded.

Satellite Manufacturing Findings (2)

- Satellite Manufacturing revenues from commercial customers grew from by 27%, from $3 billion in 2006 to $3.8 billion, in 2007
  - The proportion of manufacturing revenues from commercial customers increased from 25% of total manufacturing revenues in 2006 to 33% in 2007
- 21 new commercial geosynchronous orbit (GEO) satellite orders were announced in 2007, four fewer than in 2006
  - U.S. manufacturers received 52% of these orders, up from 42% in 2006
  - European manufacturers received 43% of these orders, down from 46% in 2006
  - Rest of world manufacturers earned 5% of these orders, down from 12% in 2006

Launch Industry Revenues

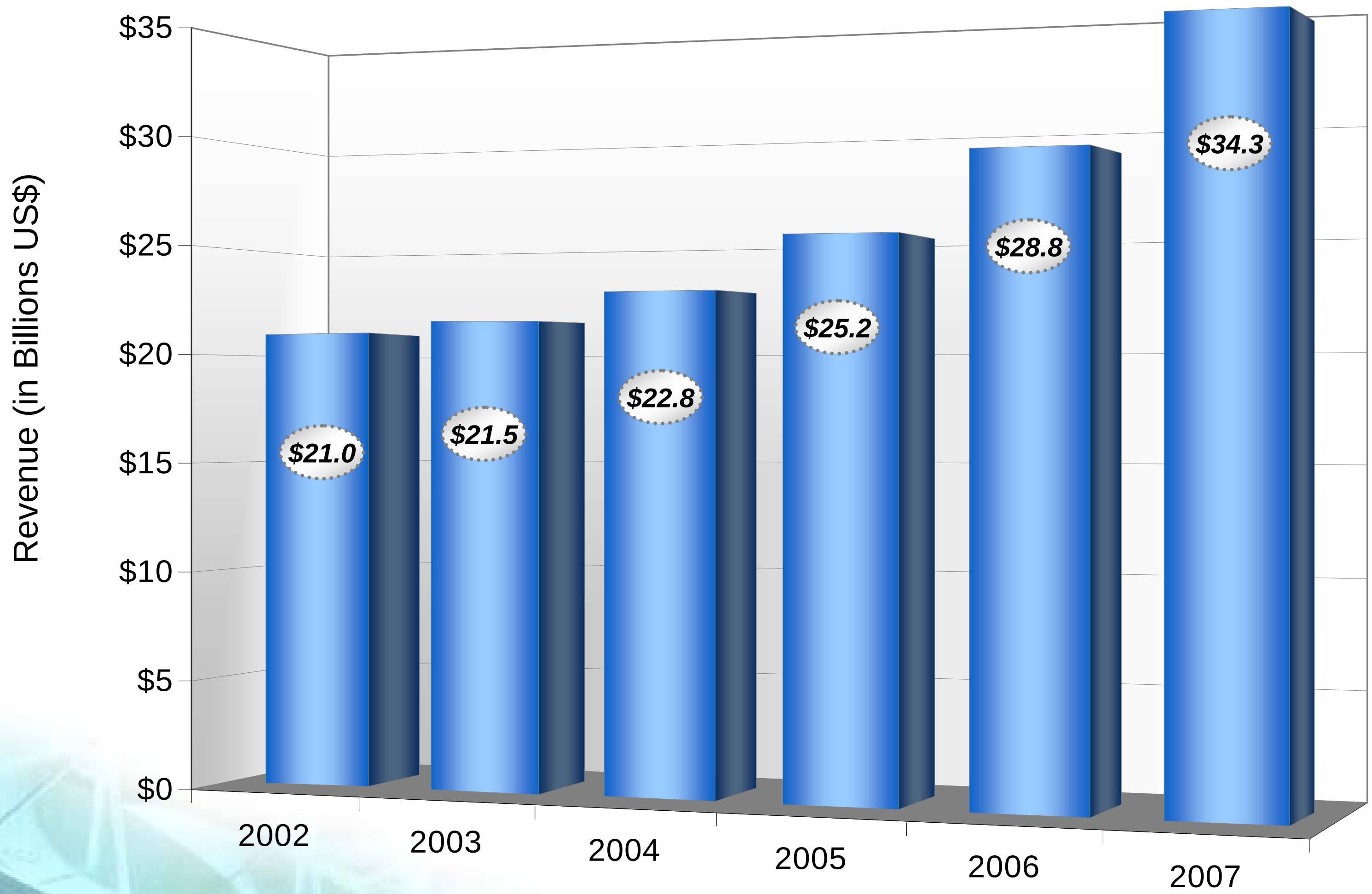


Note: Launch Industry revenues are recorded in the year the launch occurs, not when contract is awarded.

Launch Industry Findings

- Worldwide Launch Industry revenues increased by 19% in 2007, reversing the 10% percent decline in the previous year
  - 47% of revenues came from launch procurements by commercial entities
  - 53% of revenues came from launches contracted on a competitive/commercial basis by governments
- 49 commercial launches took place in 2007, eight more than in 2006
  - 55% were conducted on behalf of commercial customers, compared with 44% in 2006
  - U.S. providers staged two fewer commercial launches in 2007 than in 2006, reducing the U.S. share from 44% to 33%
- While global commercial launch revenues rose in 2007, U.S. revenues remained constant at $1 billion
  - As a percentage of worldwide launch revenues, the U.S. share continued to decline, from 37% in 2006 to 31% in 2007

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); and *Consumer Equipment* — Satellite TV dishes, satellite radios, satellite phones, and select GPS devices

Ground Equipment Findings

- Overall revenue in the Ground Equipment sector grew 19% from 2006, continuing as the second largest segment of industry revenues
- Revenues for consumer equipment drove growth in this sector
  - Prices for consumer hardware (e.g., satellite TV and radio receivers) are increasing as more applications and bundled services are incorporated

Ground Equipment Findings (2)

- End-user terminal numbers grew across all sectors

Terminals in Service	End-2006	End-2007
Satellite TV	88,737,915	100,507,651
Satellite Radio	14,152,212	18,022,951
Mobile Satellite Services	1,773,729	1,833,126
Mobile Satellite TV	750,000	950,000
End-User Broadband	565,300	683,700

Note: For consumer services, terminal number estimates are based on reported subscriber numbers

  - Growth of end-user broadband between 2006 and 2007 occurred primarily in the U.S.
  - Mobile satellite TV is currently offered only in Korea and Japan, although service is pending in the U.S. and Europe

Satellite Industry Employment

- Although the launch sector contributed the smallest proportion of total satellite industry revenues, it employed the second-highest number of satellite personnel in the U.S.

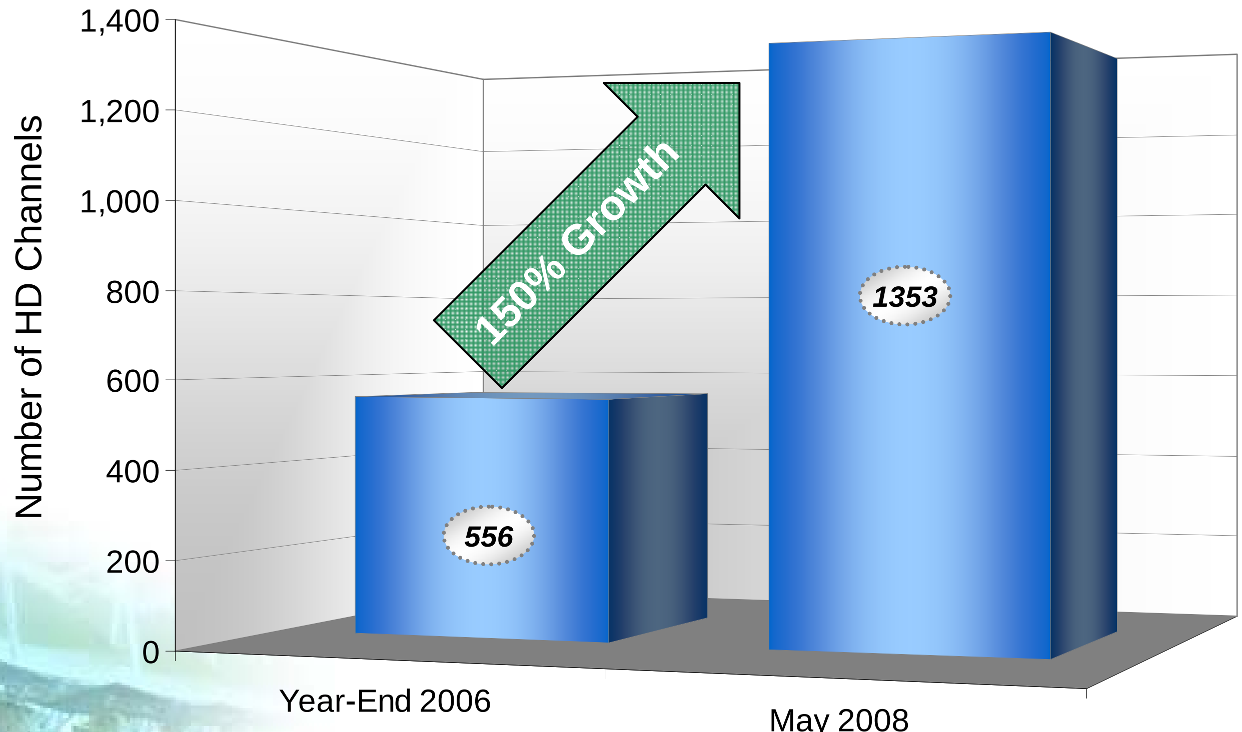
Satellite Industry Sector	Estimated U.S. Personnel (2006) *
Satellite Services	49,423
Satellite Manufacturing	16,184
Launch Industry	78,762
Ground Equipment	124,042
Total Estimated U.S. Employees (2006) *	**268,411**

* Source: U.S. Bureau of Labor Statistics (BLS). All figures 2006 — the most recent complete data as of May 2008

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)

Global Satellite Carriage of HDTV

- Satellite carriage of High Definition Television (HDTV) continued to grow rapidly
  - The number of HDTV channels worldwide grew by 150% from 2006 to May 2008
- Satellite-delivered HDTV channels are forecasted to grow 350% by 2013



2008 Trend Summary

- Overall satellite industry growth of 16% indicates a fundamental robustness and flexibility to weather business cycles
- Proportional industry composition has remained constant in the past three years, reflecting a steady interdependence and maturity of each sector
- Consumer services, both satellite TV and satellite radio, continue to lead overall Satellite Services growth
- Ground Equipment growth, particularly in the consumer equipment side, will continue to be a major driver
- Overall Satellite Manufacturing revenues remained nominally unchanged in 2007, with commercial demand growing faster than government

2008 Industry Outlook

- Some industry-wide trends continue
  - Commercial satellite operators continue to replace and realign their fleets
  - Robust global appetite continues for consumer satellite applications, mobility and convergence
  - Carriage of HDTV continues to reach critical mass in major markets globally

2008 Industry Outlook (2)

- Some questions remain
  - Will Satellite Manufacturing revenues be buoyed by the trend toward larger, more complex spacecraft or alternatively orders for multiple smaller satellites?
  - What role will government customers play as commercial applications compete for manufacturing, launch and services capacity?
  - How will government export policies affect future Satellite Manufacturing and Launch Industry trade?
  - Will new providers enter the commercial launch sector as global demand for launches increases?
  - How will changes in the financial structure of the industry affect advance planning and innovation for long-lead projects?
  - Will satellite-delivered broadband find an ongoing customer base in the U.S. and abroad?
  - Will new mobile voice, data and video applications capture consumer interest to enable growth rates similar to that of satellite TV and radio?