



State of the Satellite Industry Report

June 2007

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Prepared by
Futron Corporation



- Futron Corporation performs the study for SIA
- The study covers four satellite industry segments:
 - Satellite Services
 - Satellite Manufacturing
 - Launch Industry
 - Ground Equipment
- Surveys request revenue information from key companies in the industry
 - Individual responses are kept confidential
- Futron augments surveys with publicly available data and research to derive industry revenues

Satellite Manufacturing

- Satellite Manufacturing
- Component and Subsystem Manufacturing



Ground Equipment

- Mobile Terminals
- Gateways
- Control Stations
- VSATs
- DBS Dishes
- Handheld Phones
- DARS Equipment

Satellite Services

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

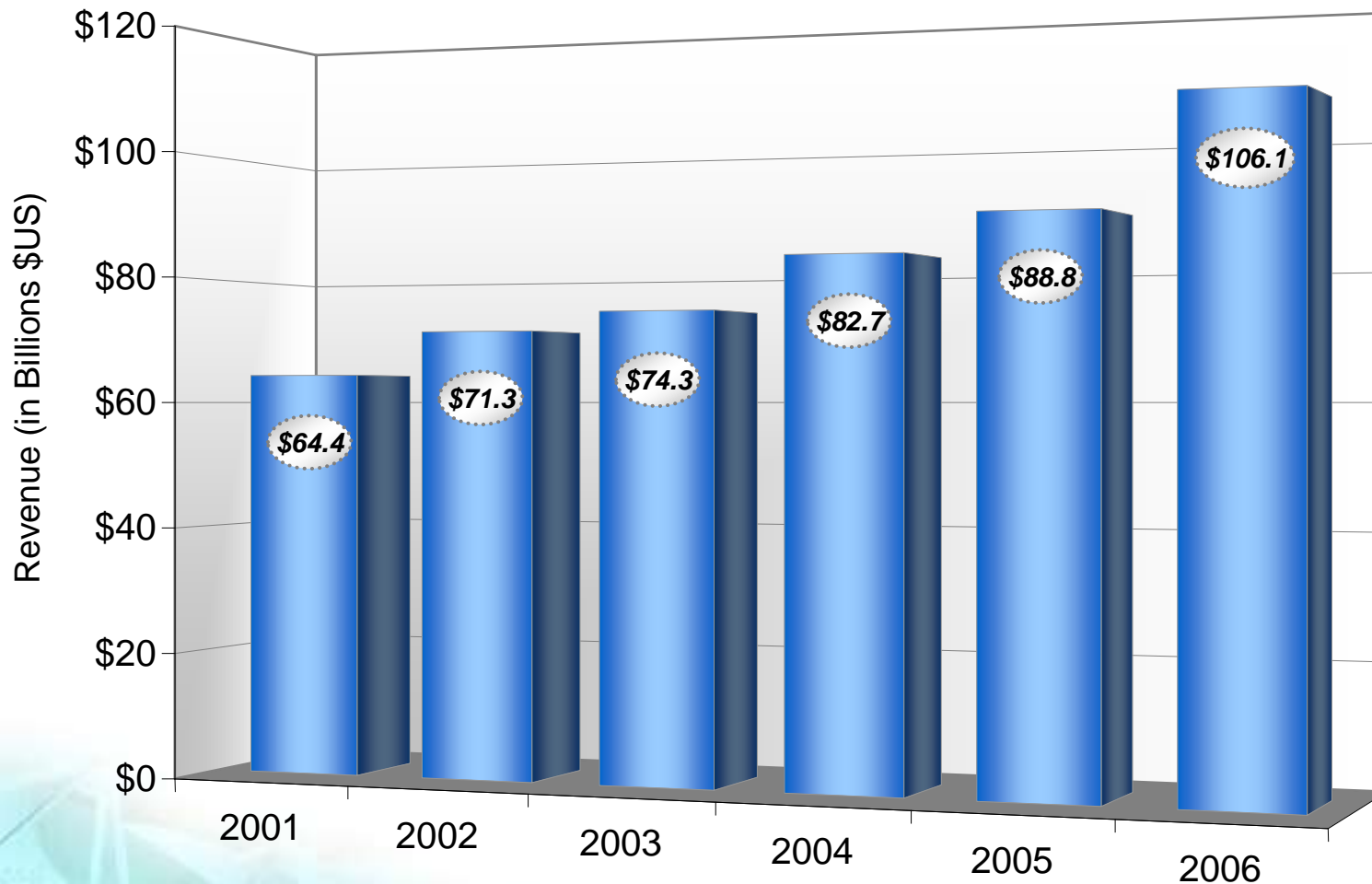
Launch Industry

- Launch Services
- Vehicle Manufacturing
- Component and Subsystem Manufacturing

- Surveys are distributed via email
- Sent to key players in the following sectors:
 - Satellite Services
 - Satellite Manufacturing
 - Launch Industry
 - Ground Equipment
- Total of 56 surveys emailed
 - Sent to 21 SIA members and 35 non-members
 - 25 U.S. and 26 non-U.S. recipients
- 46% response rate

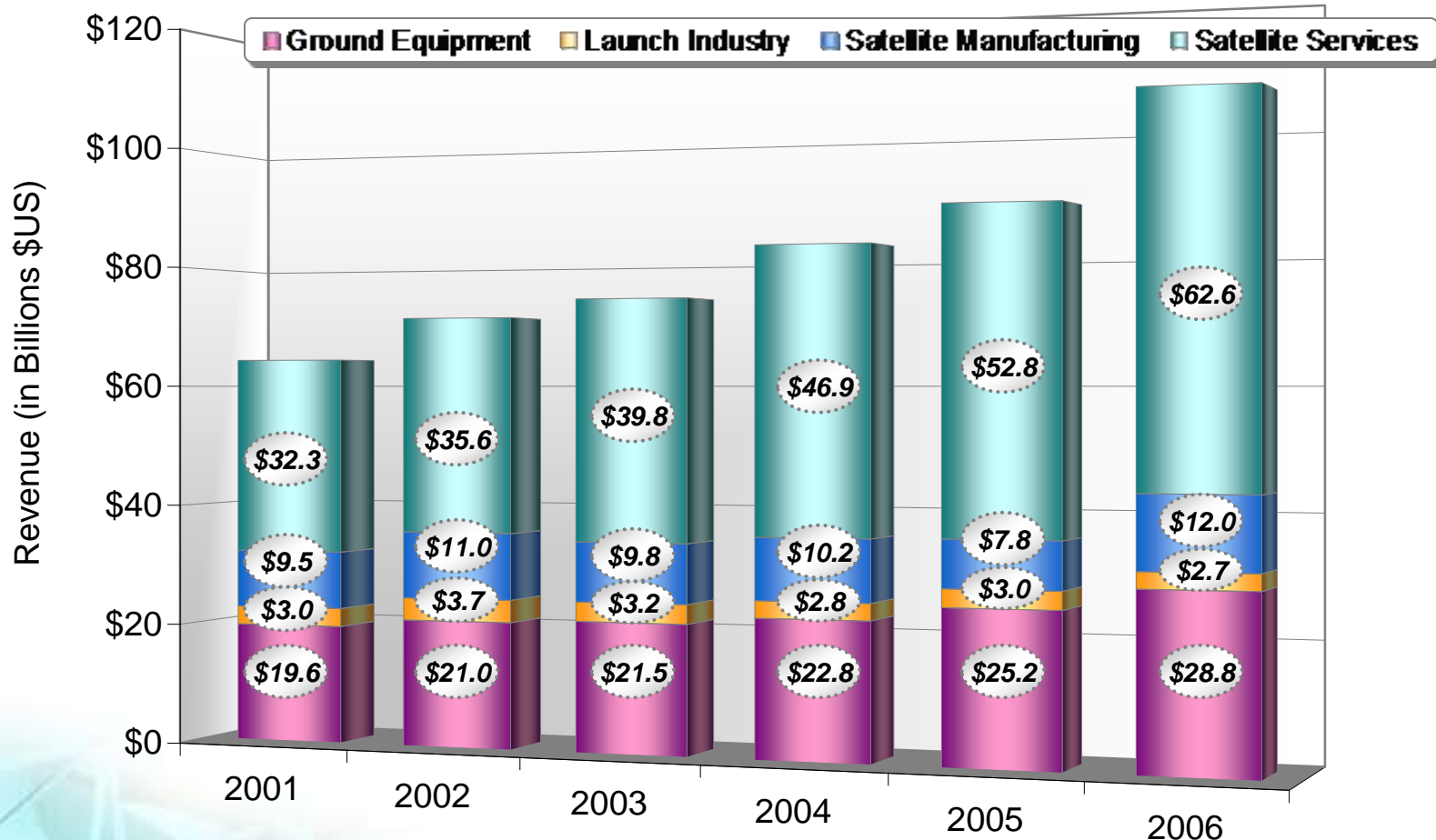
- Satellite Manufacturing data
 - Include manufacturing activity for both commercial and government customers
- Launch Industry data
 - Include services provided by private companies for both commercially-owned and government-owned payloads
 - Do not include government launches, such as Shuttle launches 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 10.5% for the period 2001-2006

World Revenues By Sector

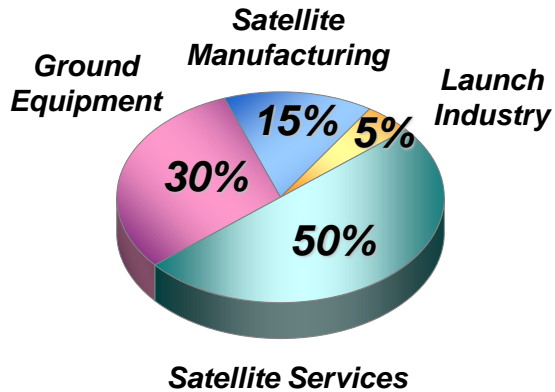


Satellite Manufacturing and Satellite Services showed the greatest growth: 54% and 19%, respectively

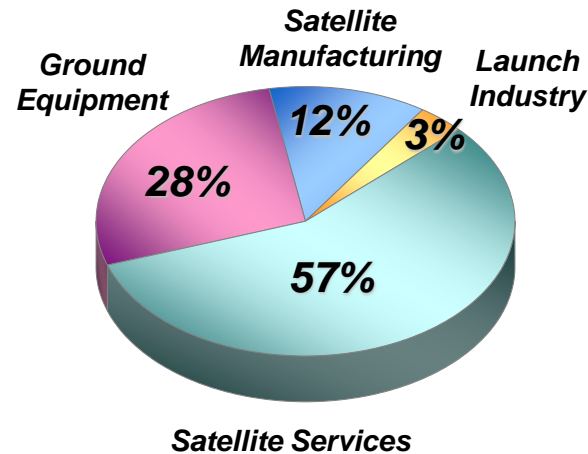
- Worldwide industry revenue growth was 19.5% from 2005 to 2006, compared with a 7.4% increase from 2004 to 2005
- Satellite Services grew approximately 19% from 2005 to 2006, primarily due to growth in satellite television
- Due to an increase in the number of satellites launched, 2006 Satellite Manufacturing revenues grew by more than 50%, compared with a revenue decrease of almost 24% from 2004 to 2005
- Launch services was the only sector that experienced a decline in revenue over 2005, reflecting the retirement of the higher-priced Titan 4B in 2005

World Revenues By Sector

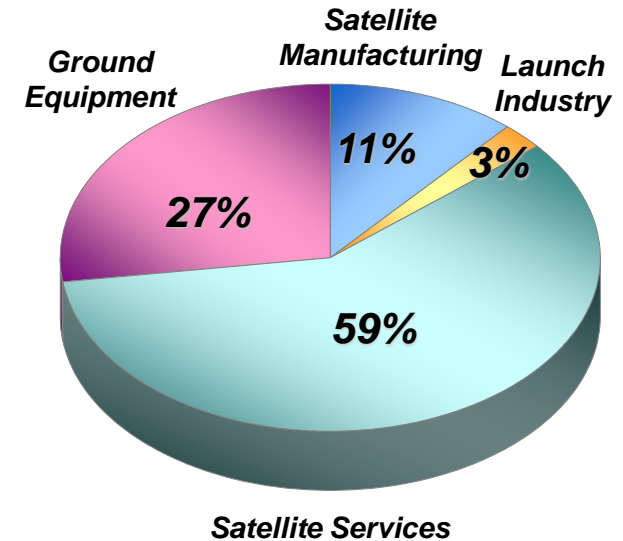
2001
\$US64.4B



2004
\$US82.7B

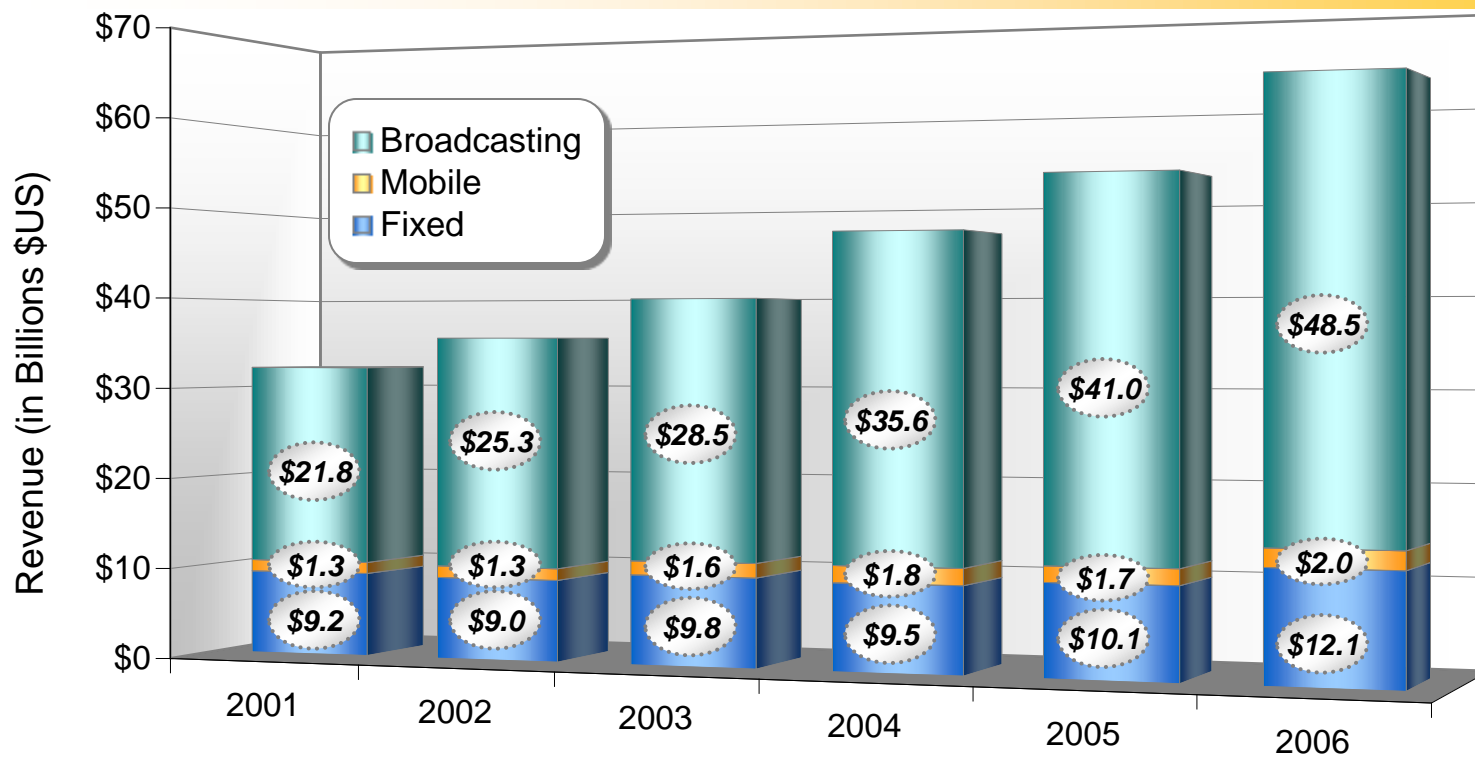


2006
\$US106.1B



■ Ground Equipment
 ■ Launch Industry
 ■ Satellite Manufacturing
 ■ Satellite Services

World Satellite Services Revenue

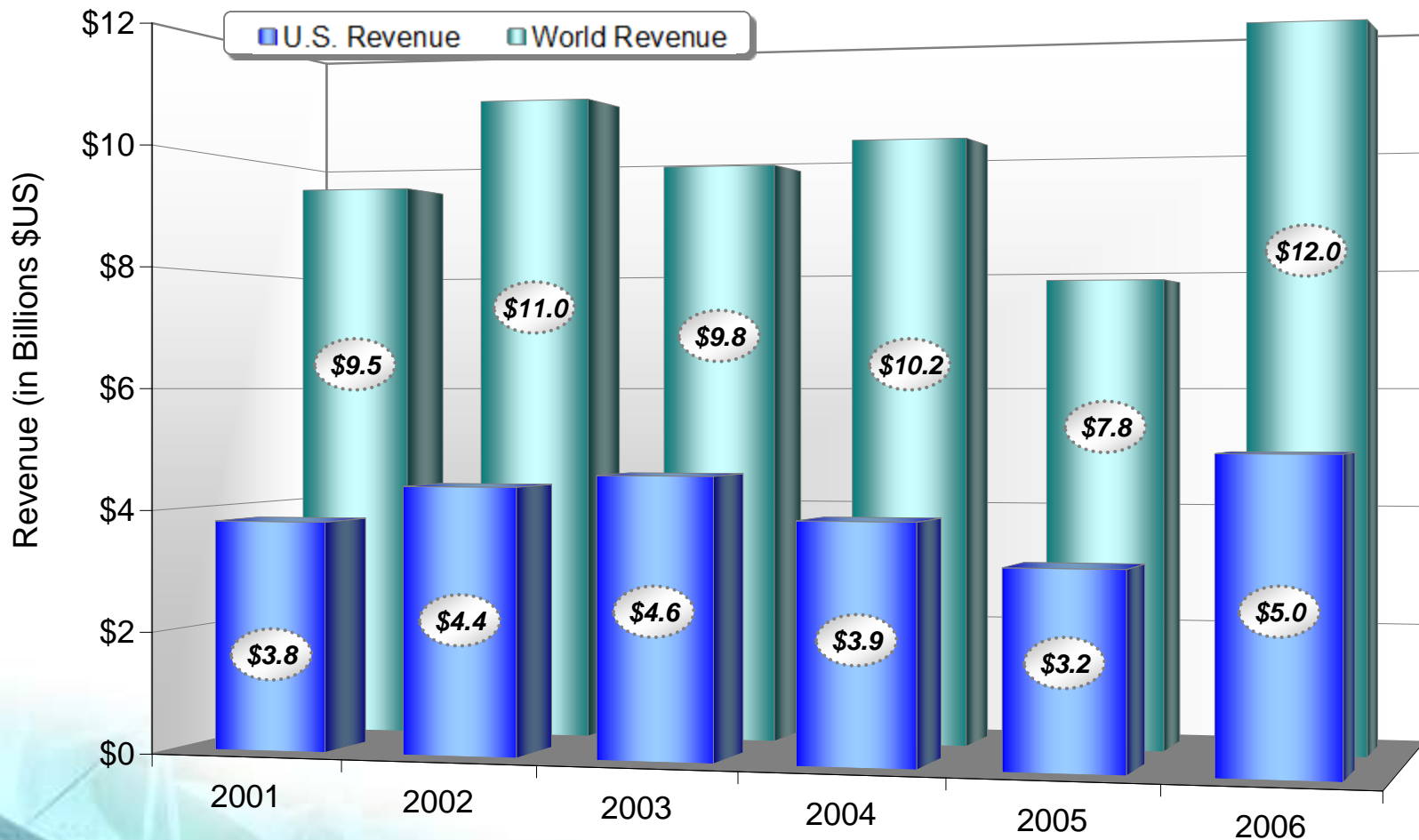


	2001	2002	2003	2004	2005	2006
Broadcasting	\$21.8	\$25.3	\$28.5	\$35.6	\$41.0	\$48.5
- Satellite Radio	\$0.0	\$0.0	\$0.1	\$0.3	\$0.8	\$1.6
- Satellite Television	\$21.8	\$25.3	\$28.4	\$35.3	\$40.2	\$46.9
Mobile	\$1.3	\$1.3	\$1.6	\$1.8	\$1.7	\$2.0
Fixed	\$9.2	\$9.0	\$9.8	\$9.5	\$10.1	\$12.1
- End-User Broadband	\$0.2	\$0.2	\$0.3	\$0.2	\$0.3	\$0.3
Total	\$32.3	\$35.6	\$39.8	\$46.9	\$52.8	\$62.6

- Satellite Services growth of 19% in 2006 outpaced 2005 growth of 13%
 - Satellite Television revenues increased 17% globally in 2006, again contributing the largest portion of overall satellite services growth
 - Global satellite TV subscribers grew about 10% over 2005 levels, reaching approximately 89 million worldwide
 - Satellite Radio continued to experience strong growth
 - Revenues doubled from \$0.8 billion in 2005 to \$1.58 billion in 2006
 - Subscribers grew by 50%—from 9.4 million in 2005 to 14.2 million in 2006
 - Overall Fixed Satellite Services revenue grew by 20% over 2005, while Mobile Satellite Services revenue increased by 18%, driven by growth in voice traffic

- Overall fixed satellite transponder fill rates grew from 58% in 2004 to 70% by 2007
- Transponder Agreement revenues, which includes contracts for the use of capacity on a full or partial transponder basis, grew 25% in 2006, compared with only 4% growth in 2005
- Revenue for global commercial satellite remote sensing increased approximately 16% from 2005 to 2006, driven by evolving business opportunities:
 - New and continuing military and intelligence imagery contracts
 - Expanding civil and commercial imagery markets, including online mapping services

Satellite Manufacturing Revenues



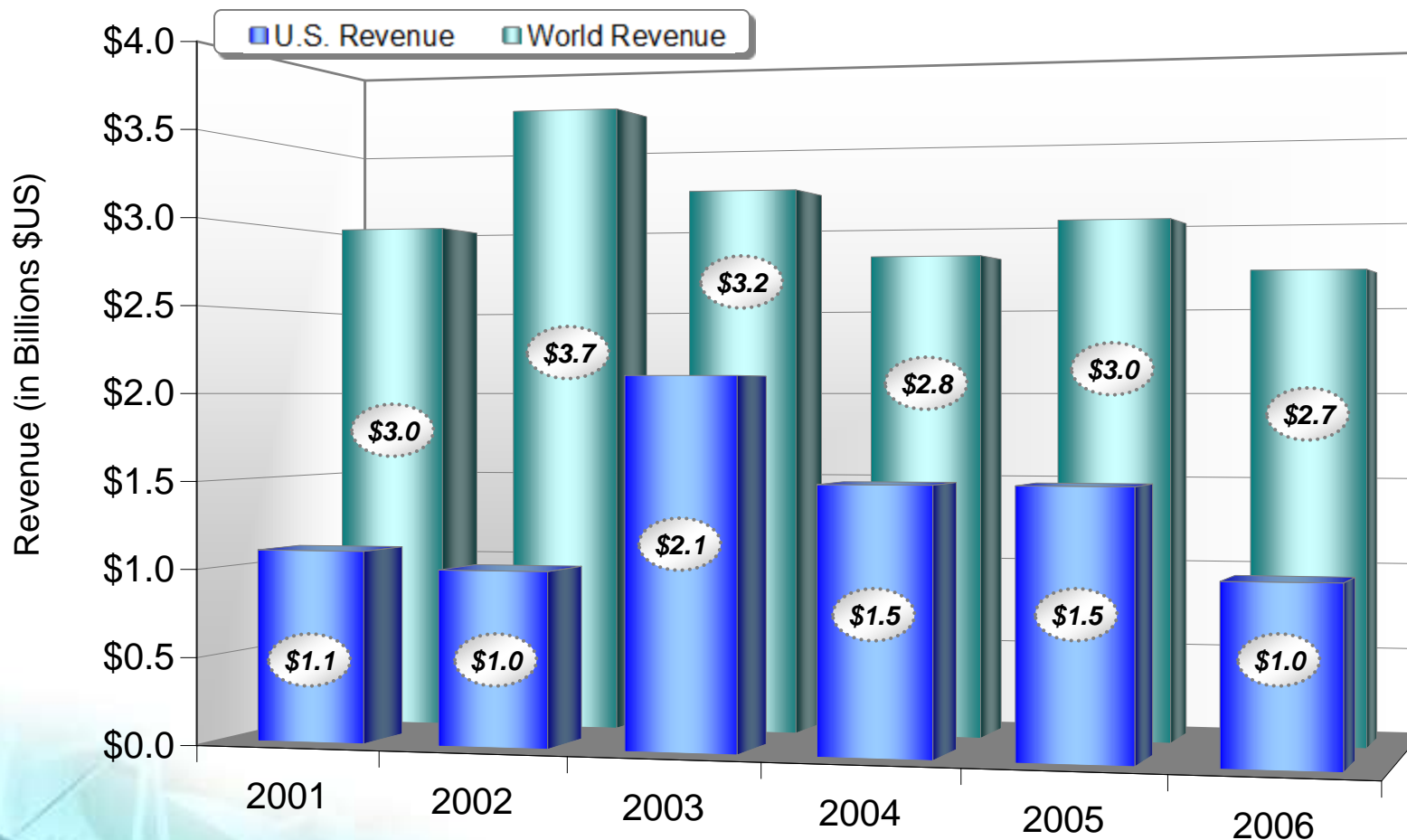
N.B. - Satellite Manufacturing revenues are recorded in the year the satellite is delivered/launched, not when contract is awarded. World revenue includes US revenue.

- Global Satellite Manufacturing revenues in 2006 showed the highest growth rate of all sectors at 54%, led by U.S. revenue growth of 57%
 - 101 payloads were launched in 2006, an increase of 53% over 2005
 - A 76% increase in the number of government payloads accounts for this change
 - The average revenue per payload launched remained stable
- In 2006, government payloads generated 75% of total manufacturing revenues
- Commercial payloads generated just under \$3 billion in revenue

- Of 101 payloads launched in 2006:
 - U.S. share of manufacturing revenues increased slightly, but remained about 41%
 - Commercial customers accounted for 25%, compared with 31% in 2005
- 2006 saw three more commercial GEO manufacturing orders than in 2005:
 - 5 for Alcatel Alenia Space (now Thales Alenia)
 - 2 for Boeing Satellite Systems
 - 7 for EADS Astrium
 - 1 for LMCSS
 - 3 for Khrunichev
 - 1 for Orbital Sciences Corp.
 - 6 for Space Systems/Loral

Data on manufacturing orders from Friends of Futron 2006 End-of-Year Manufacturing Report

Launch Industry Revenues

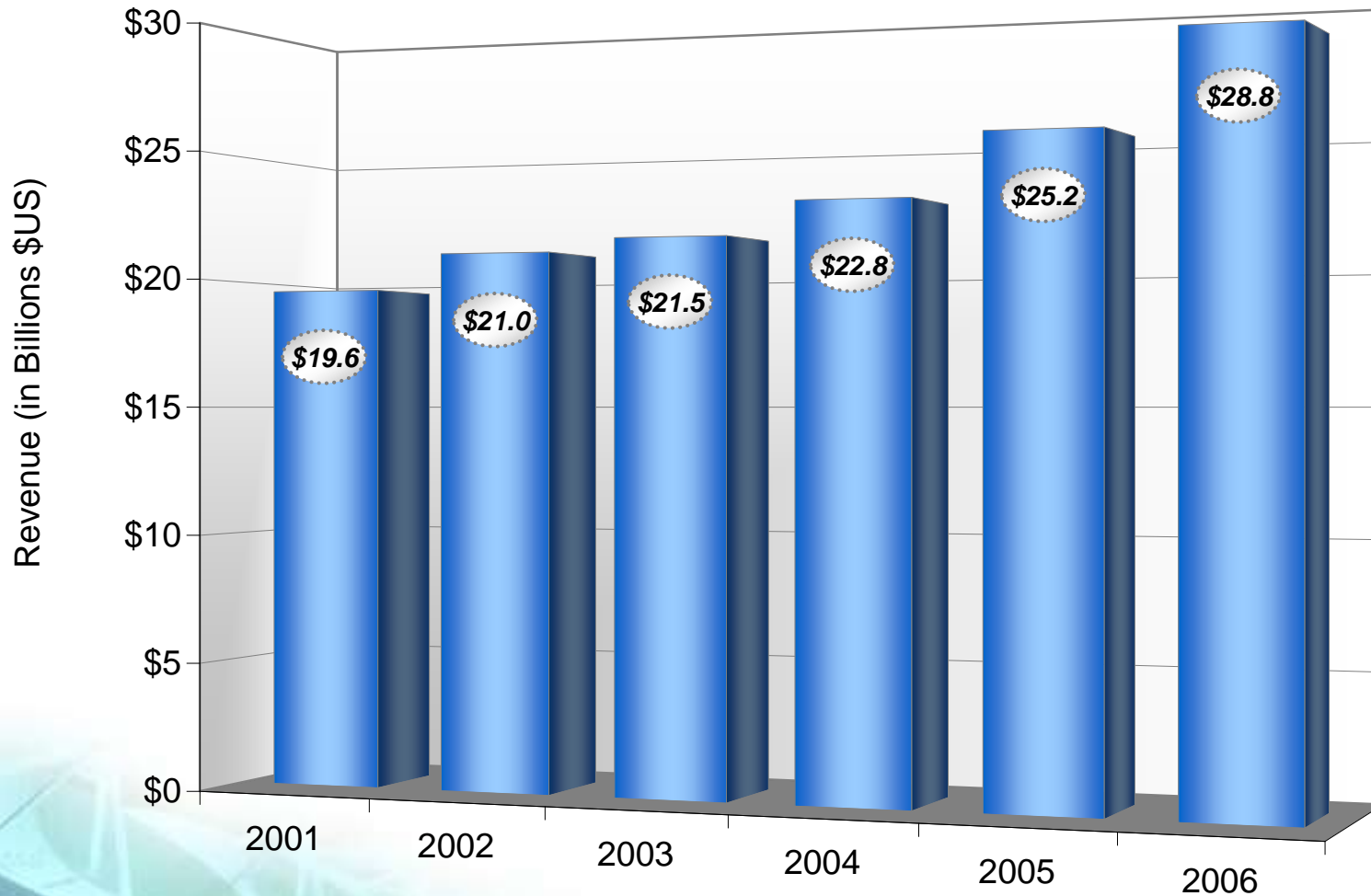


N.B. - Launch Industry revenues are recorded in the year the launch occurs, not when contract is awarded.

- In 2006, worldwide launch industry revenue decreased by 10% over 2005
 - 2005 was the final year for higher-priced Titan 4B launches
 - Adjusting prior year figures for these launches, revenues showed a gain of about 23% globally from 2005 to 2006
- The U.S. share of launch industry revenue continued to decline, although the number of U.S. launches increased
 - U.S. launch providers had 37% of global launch revenue in 2006, compared with 50% in 2005 and a high of 66% in 2003
 - The Titan 4B retirement was the driver of this decline

- Of 41 commercial launches in 2006:
 - The U.S. captured 44%, up from 33% of 39 launches the year before
 - Commercial customers accounted for 44%, compared with 46% in 2005
- 2006 saw two more commercial GEO launch orders than in 2005:
 - 6 for Arianespace
 - 3 for ILS
 - 1 for Lockheed Martin Commercial Launch Services
 - 9 for Sea Launch/Land Launch

World Ground Equipment Revenues



Includes: Gateways, NOCs, Satellite News Gathering equipment, flyaway antennas, VSATs, satellite tv dishes, satellite radios, satellite phones

- Overall revenue in the Ground Equipment sector grew 14% over 2005
- Ground Equipment accounts for the second largest share of industry revenues, with the proportion remaining stable over the prior 5 years
- End-user equipment drives revenue growth
 - Prices for consumer service-related hardware (e.g., satellite radio and DTH TV receivers) are increasing as new technology and capabilities are introduced
 - In 2006, global satellite ground equipment revenues were \$28.8 billion; by contrast, U.S. cellular handset revenues were \$17.0 billion in the same period

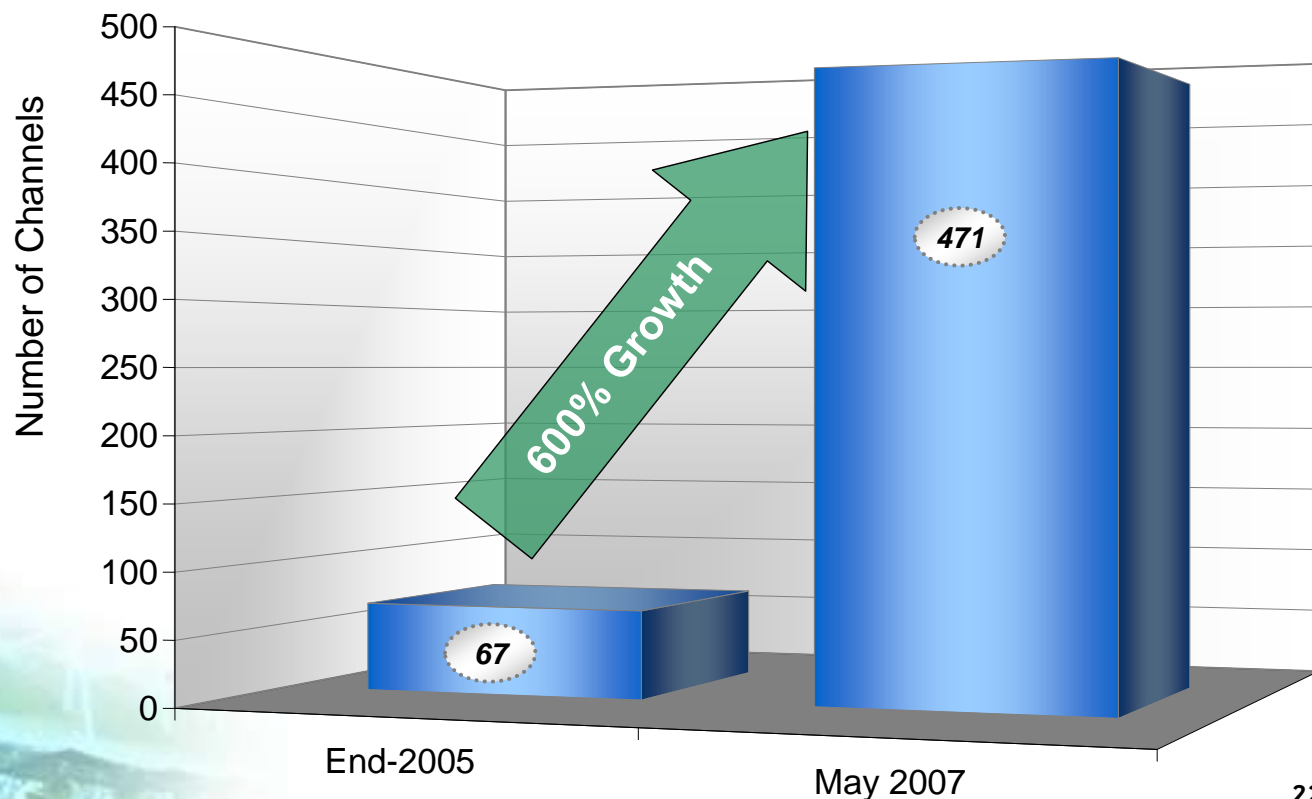
- End-user terminal statistics reflect relative size of various consumer markets

Terminals in Service, End-2006

BROADBAND	565,300
DARS	14,152,212
DMB	750,000
DTH	88,737,915
MSS	1,473,729

- Satellite-based Digital Multimedia Broadcasting (DMB) is currently only available in limited parts of Asia, although plans are being made for service in other regions
- Direct-to-home (DTH) television terminal numbers are calculated based on subscriber numbers

- Despite dramatic growth since 2005, HDTV channels still account for only 2% of all television channels carried via satellite today
- Over the next five years, HDTV channels are expected to grow another 600%, with average annual growth of 35%



- Robust global industry-wide growth signals real market expansion beyond ‘recovery/rebound’ levels
 - Developed markets show steadily increasing demand for converged applications (e.g., data, video, voice to mobile devices)
 - Continued demand for increased geographic penetration in all markets
 - Increasing requirements for enhanced products/applications in emerging markets
 - Changing regulatory regimes in key markets (e.g., India DTH licenses)

- Most industry sectors reflect impact of broader market, or ‘all boats rise with the tide’
 - Significant increases in manufacturing and services revenue
 - Other sectors show stable to slightly increasing trends
 - Launch revenues not indicative of market downturn (i.e., Titan 4B)
- Higher consumer and wireless demand
 - HDTV finally taking off as programming becomes available
 - Backhaul for cellular services fuels growth in voice services in developing markets
 - Mobile Broadband: government applications account for surge in required satellite bandwidth

- Key Technology and Service Trends
 - Steady growth of hybrid networks and bundled services
 - e.g., cellular backhaul, video/voice/data bundles
 - Strategic partnerships tailor offerings for new market segments
 - e.g., DirecTV-Verizon
 - Legacy products decline at predictable rates
 - e.g., voice, analog video
 - Advanced products and services increase penetration in mature markets, creating new opportunities
 - e.g., IPTV
 - Regulatory developments support rapid technical expansion
 - e.g., requirement for ‘local-into-local’ carriage for DTH providers

- Key Market Drivers

- Strong global economic climate
- Continued government and military demand and investment
- Accelerated replacement and realignment of major commercial fleets
- Increasing levels of global consumer demand
- Availability and relative ‘affordability’ of capital for investment

- Some industry-wide trends continue
 - Accelerated capital investment plans for consolidated commercial operators
 - Government-industry partnerships for critical programs
 - Global appetite for more power, more mobility, more convergence
 - Demand for key technologies, i.e. Broadband, HDTV will reach critical mass in major markets
- Some significant questions remain:
 - The relative US industry position, e.g. launch
 - Evolution of targeted ‘bundling’ strategies for new service
 - Pace of regional market recovery in all sectors
 - Effect of further consolidations and strategic transactions