State of the Satellite Industry Report

June 2011

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SIA
SATELLITE INDUSTRY ASSOCIATION

Prepared by
Futron Corporation

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SIA Member Companies as of June 2011

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Study Overview

- The SIA's 14th annual comprehensive study of satellite industry statistics (www.sia.org/IndustryReport.htm)
- Based on year-end 2010 annual statistics from key players, representing four satellite industry segments:
  - Satellite Services
  - Satellite Manufacturing
  - Launch Industry
  - Ground Equipment
- Performed by Futron Corporation, the report includes surveys of 80 key companies, including 40 SIA members, augmented with publicly available data and research to derive industry revenues and statistics
  - Response rate among SIA members was 75%
  - Response rate among all companies surveyed was 50%

Methodology Notes

- All data reflect global revenues, unless otherwise noted
- Revenue is expressed as in-year U.S. dollars (not adjusted for inflation)
- Satellite Manufacturing data
  - Does not include government-built satellites unless built by commercial arms of government entities
  - Does not include university-built or research satellites
  - Satellite manufacturing revenues for research and development, procurement, and construction are reported entirely during the year of launch although they are actually accrued throughout the life-cycle of satellite program
- Launch Industry data
  - Includes all launches by commercial launch companies, including those that primarily launch government payloads
  - Includes commercially-procured launches on behalf of government customers
  - Does not include launches conducted by government entities for government customers outside of commercial procurement processes
- Ground Equipment data
  - GPS equipment revenues reflect sales of stand-alone GPS hardware, but do not include sales of GPS chipsets for use in devices (such as smartphones) whose primary use is not navigation

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
- Space Flight Management Services

Satellite Manufacturing

- Satellite Manufacturing
- Component and Subsystem Manufacturing

Launch Industry

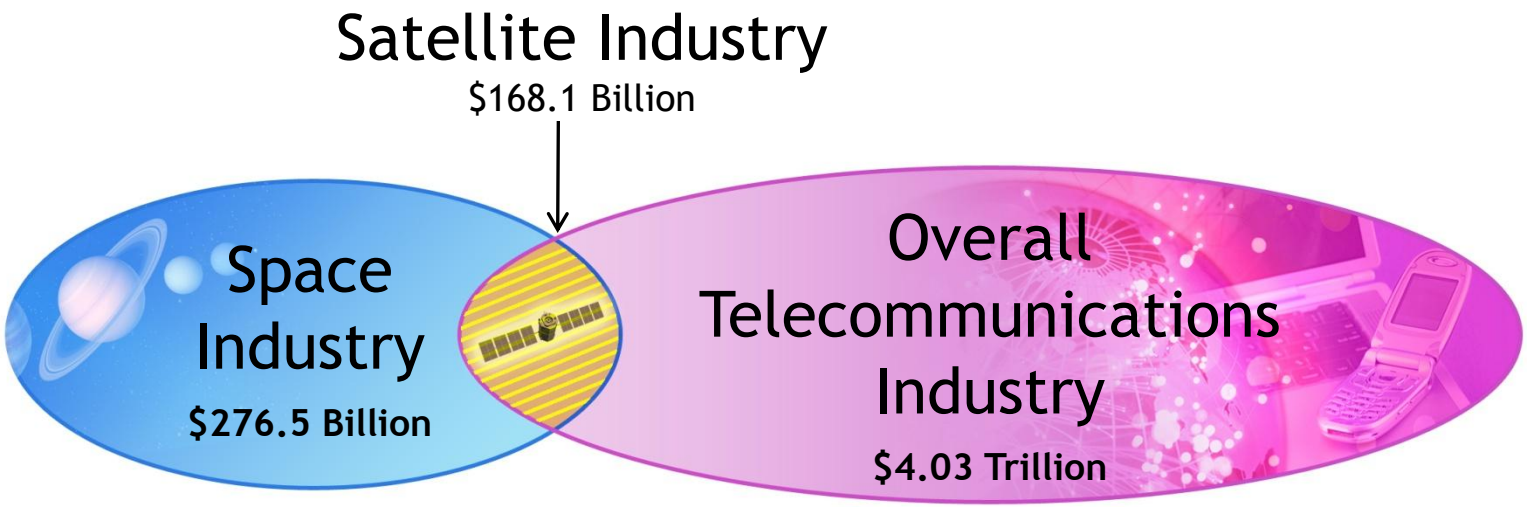
- Launch Services
- Vehicle Services

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

The Satellite Industry in Context

- The satellite industry is a subset of both the telecommunications and space industries
- The global satellite industry posted growth of 11% in 2009 and 5% in 2010

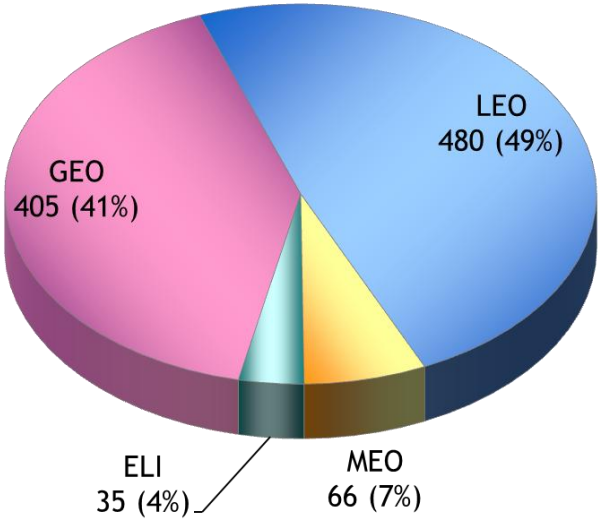


- Overall global telecommunications spending rose by 5.5% in 2010, following a 1.6% decline in 2009
  - U.S. telecommunications spending experienced slower growth of 2.4% in 2010, following a steeper decline of 8.2% in 2009
- Overall global space spending rose by 7.7% in 2010 and 7.0% in 2009

Sources: Telecommunications Industry Association (TIA); State of the Satellite Industry Report 2011; The Space Report 2011.
All industry revenue figures are for 2010; Diagram is a notional representation and is not to scale

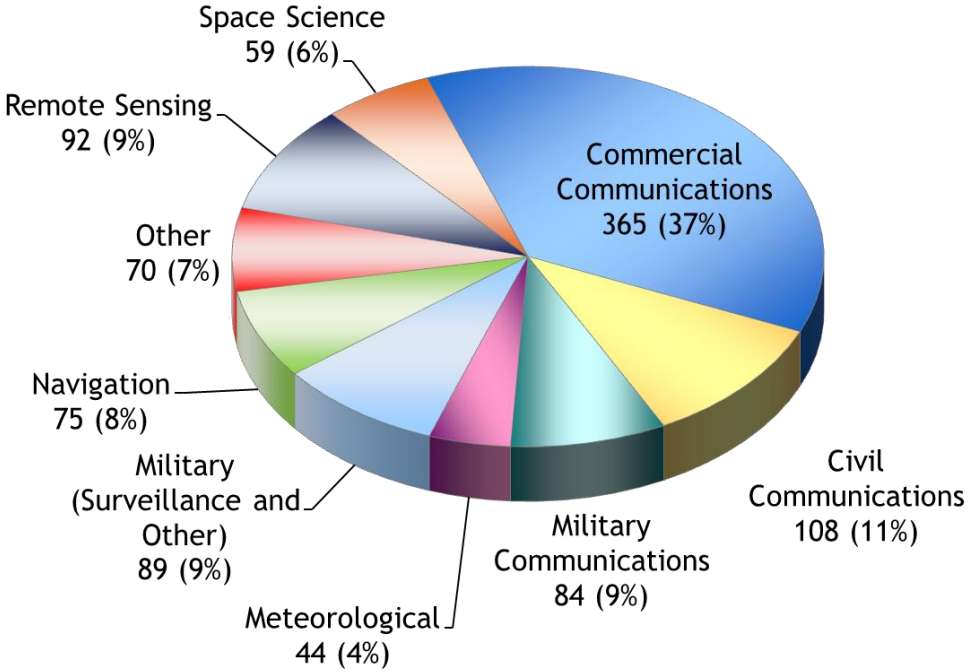
The Satellite Network in Context

Operational Satellites (June 2011) By Orbit



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

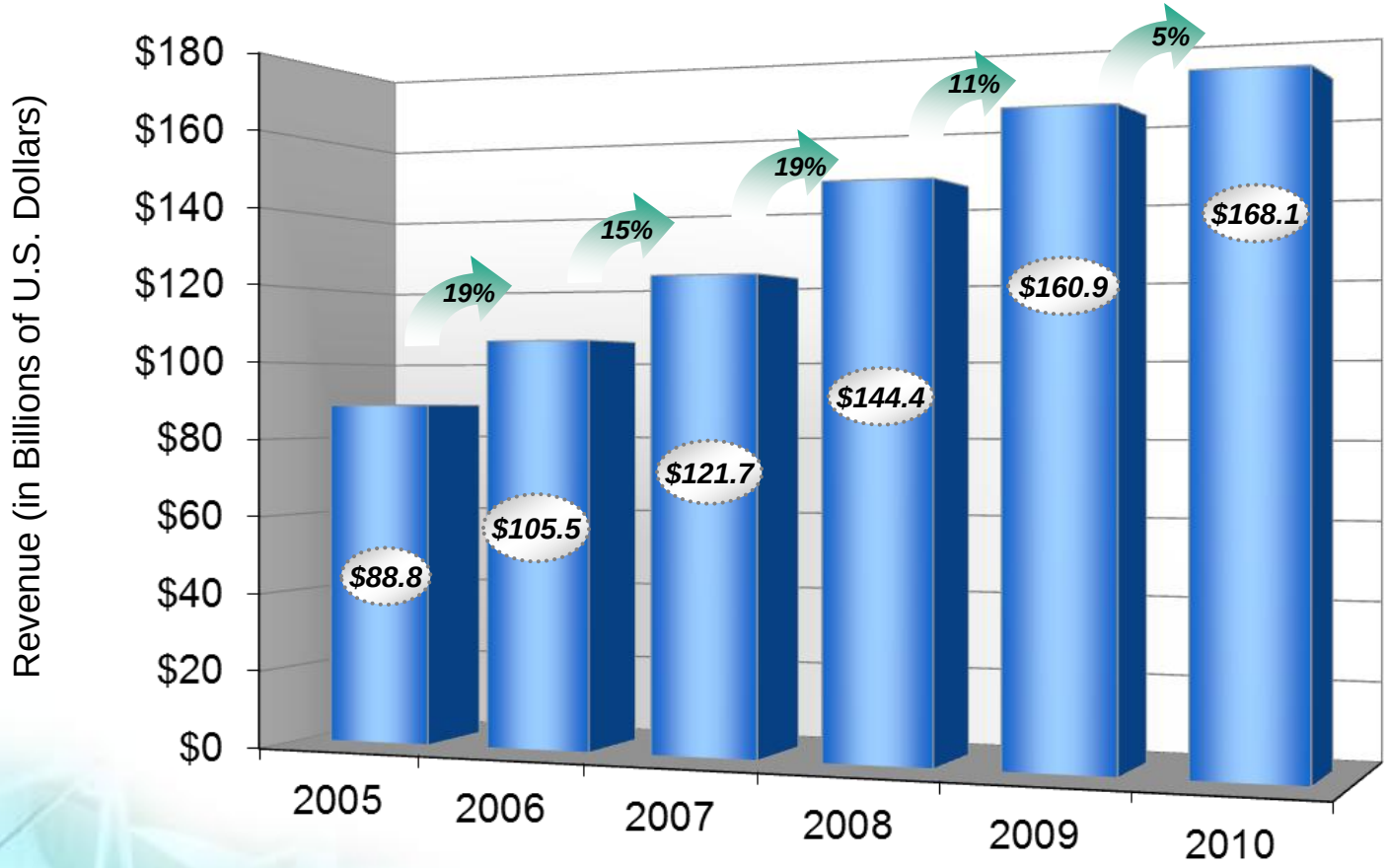
Operational Satellites (June 2011) By Function



- Commercial communications satellites represent 37% of the total 986 satellites on orbit

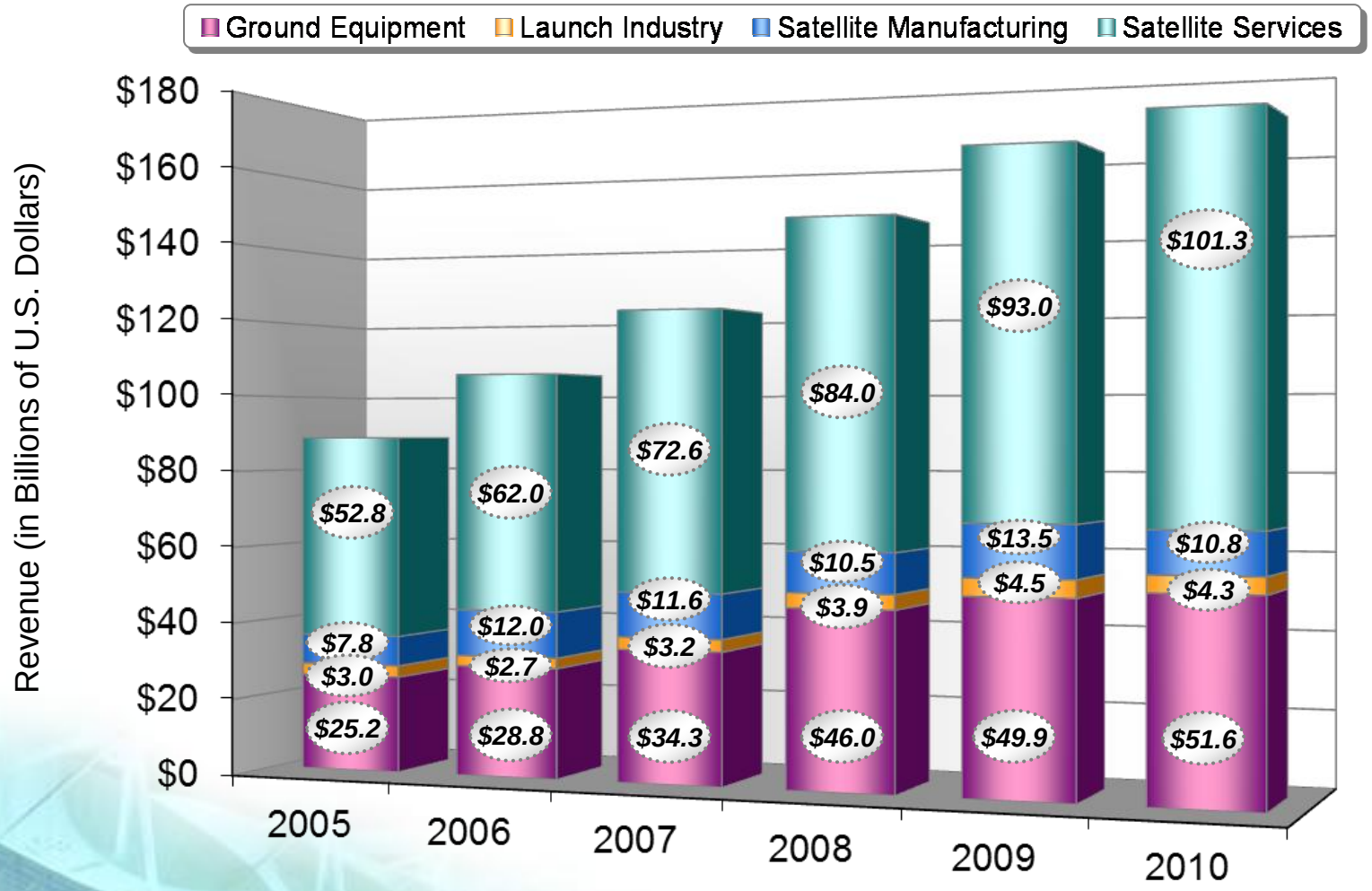
Sources: Union of Concerned Scientists (UCS) Satellite Database; Futron analysis; All data current as of June 2011

World Satellite Industry Revenues



World satellite industry revenues posted average annual growth of 11.2% for the period from 2005 through 2010

World Revenues By Segment

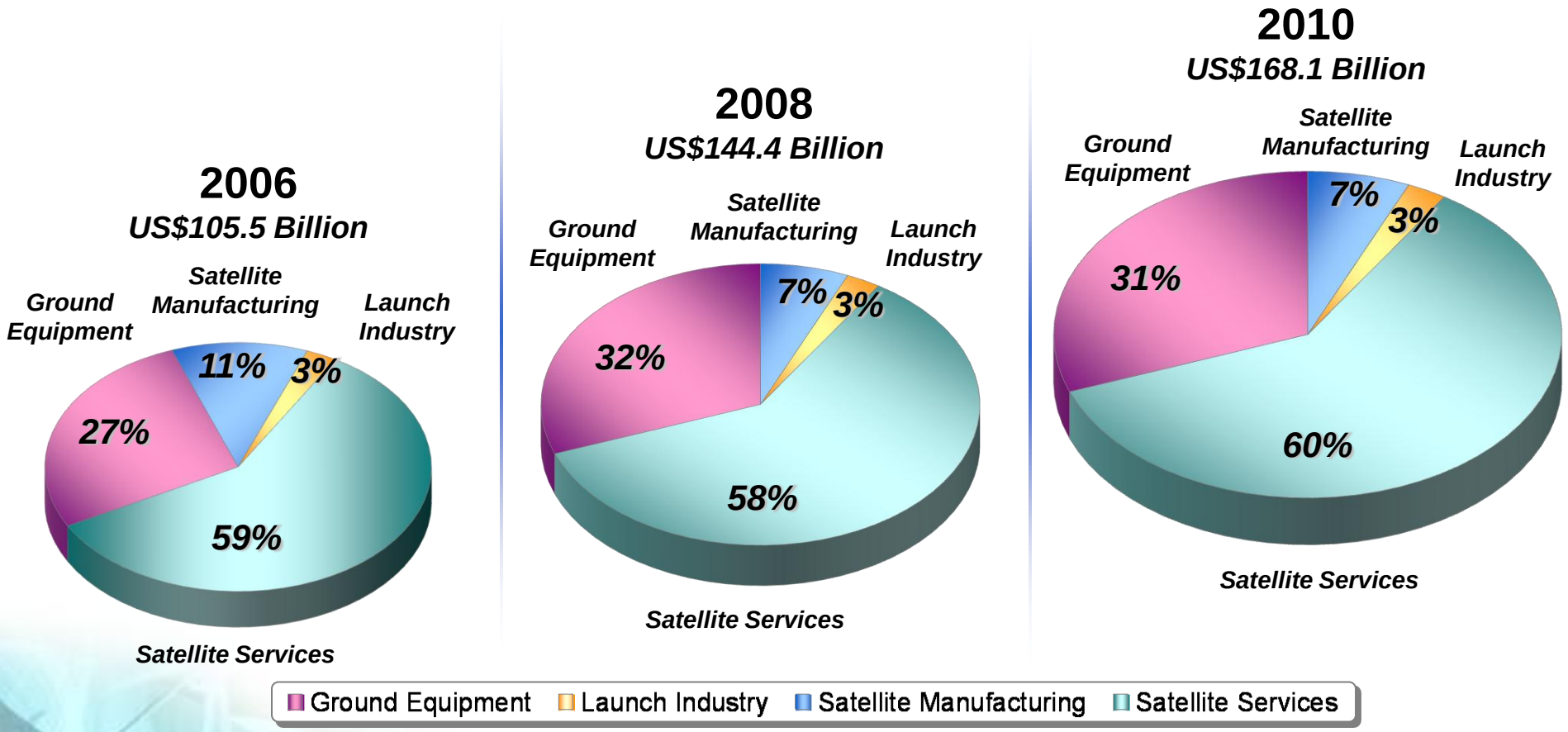


Overall industry revenues grew in 2010, led by Satellite Services at 9% growth

Top-Level Satellite Industry Findings

- Overall worldwide industry revenue growth was 5% in 2010, down from the 11% increase in 2009
- The Satellite Services and Ground Equipment segments grew, but this growth was partially offset by slight contractions in the Satellite Manufacturing and Launch Services segments
  - Satellite Services revenues surpassed the $100-billion milestone in 2010, led by a steady increase in DTH subscribers
  - Satellite Manufacturing revenues fell by one-fifth, as fewer high-cost government spacecraft were launched in 2010 compared to 2009
  - Launch Industry revenues declined 4%, due to lower-value launches in 2010
  - Ground Equipment revenues increased by 3% in 2010, with slower growth in consumer equipment but slightly faster growth in network equipment
- U.S. satellite industry employment as of 3Q 2010 was down 2.7% from year-end 2009 levels, with three of the four industry segments continuing to downsize

Share of World Satellite Industry Revenues By Segment

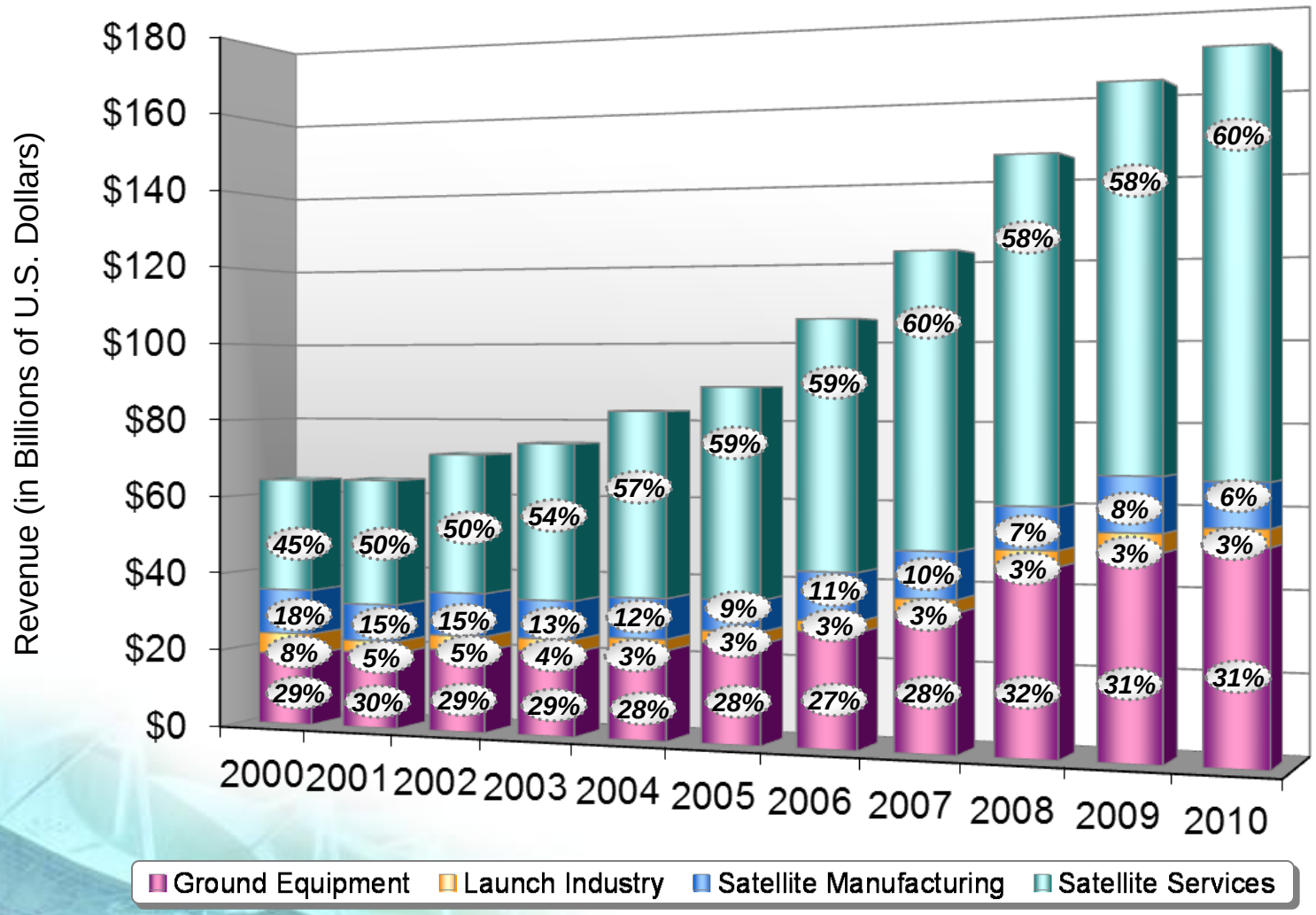


As the overall industry continues to grow, the relative proportions of the individual segments have remained stable over the past five years

Notes:

Numbers may not sum exactly due to rounding.
Figures not adjusted for inflation

World Satellite Industry Revenues By Segment: Decade in Review



Notes:

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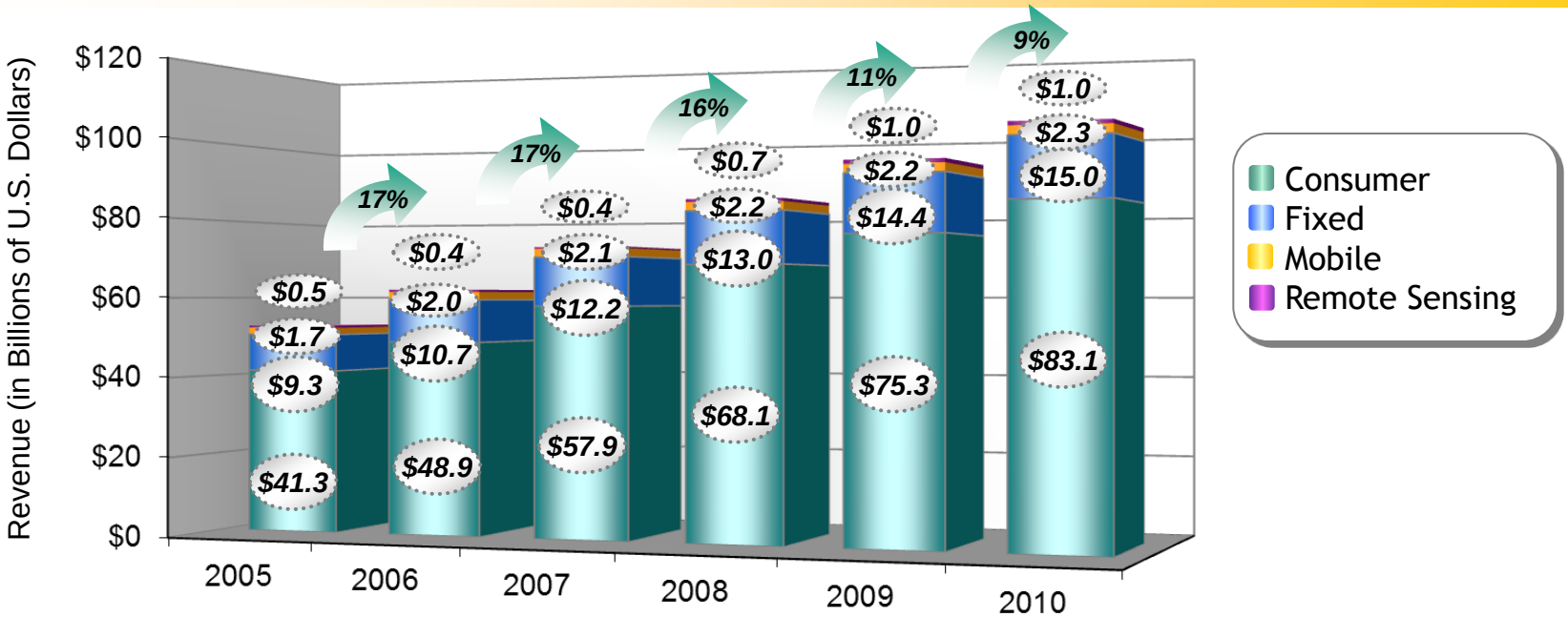
Figures not adjusted for inflation

World Satellite Services Revenue



	2005	2006	2007	2008	2009	2010
Consumer	**$41.3**	**$48.9**	**$57.9**	**$68.1**	**$75.3**	**$83.1**
- Satellite TV (DBS/DTH)	$40.2	$46.9	$55.4	$64.9	$71.8	$79.1
- Satellite Radio (DARS)	$0.8	$1.6	$2.1	$2.5	$2.5	$2.8
- Consumer Satellite Broadband	$0.3	$0.3	$0.4	$0.8	$1.0	$1.1
Fixed	**$9.3**	**$10.7**	**$12.2**	**$13.0**	**$14.4**	**$15.0**
- Transponder Agreements [1]	$7.3	$8.5	$9.6	$10.2	$11.0	$11.1
- Managed Services [2]	$2.0	$2.2	$2.6	$2.8	$3.4	$3.9
Mobile (Voice and Data)	**$1.7**	**$2.0**	**$2.1**	**$2.2**	**$2.2**	**$2.3**
Remote Sensing	**$0.5**	**$0.4**	**$0.4**	**$0.7**	**$1.0**	**$1.0**
Total	**$52.8**	**$62.0**	**$72.6**	**$84.0**	**$93.0**	**$101.3**

Notes:

Numbers may not sum exactly due to rounding.

1. Includes capacity for DTH platforms

2. Includes VSAT; Space Flight Management services included in Managed Services beginning in 2010

Satellite Services Findings

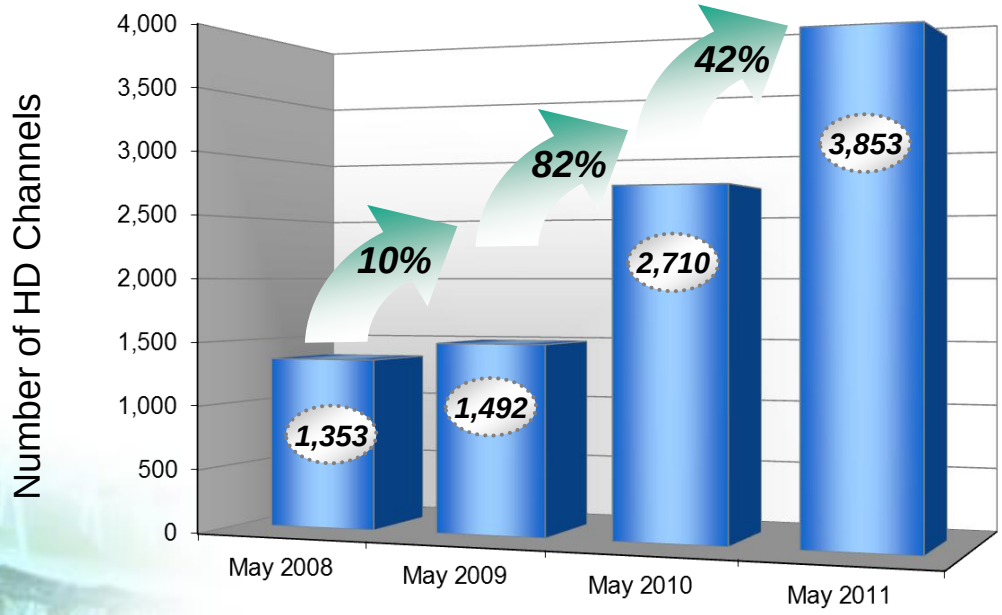
- Overall Satellite Services revenue expanded at 9% in 2010, slightly slower than the 11% growth experienced in 2009
- Consumer Satellite Television services (DBS/DTH) led with 10% growth, and now represents nearly 80% of total Satellite Services revenues
  - Globally, 5.5 million satellite pay TV subscribers were added in 2010—mainly in Asia—bringing the world total to about 147 million
  - U.S. satellite pay TV subscribers exceeded 35 million, maintaining their one-quarter share of the global subscriber base
- Transponder Agreement revenues expanded only slightly in U.S. dollar terms, from $11 billion in 2009 to $11.1 billion in 2010
  - 2010 growth was masked in part due to a stronger dollar
- Consumer Satellite Broadband service revenues also grew slightly, from $1 billion in 2009 to $1.1 billion in 2010
  - The U.S. accounted for about 70% of worldwide satellite broadband revenues
  - U.S. government began to provide limited stimulus funding for satellite broadband connectivity in 2010, which may yield further subscriber growth

Satellite Services Findings (2)

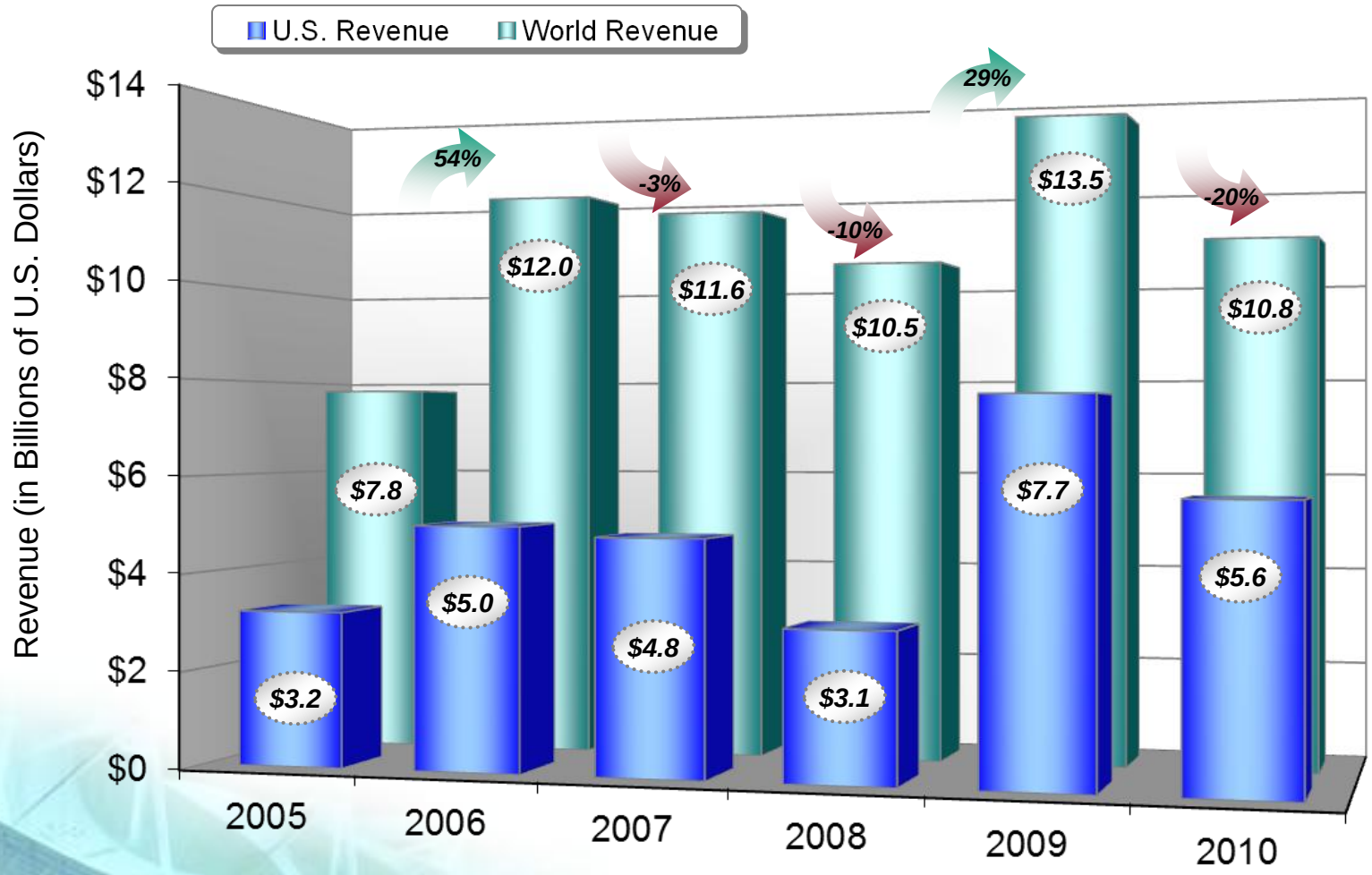
- Mobile Satellite Services revenues increased by 5%, from $2.2 billion in 2009 to $2.3 billion in 2010
  - Mobile voice services declined by 9%
  - Mobile data services revenues increased by 10%, comprising about three-quarters of all mobile satellite services revenues
- Satellite Radio (DARS) revenues grew by 12% in 2010, to $2.84 billion, outpacing the 4% revenue growth in 2009
  - Although the number of recorded subscribers fell by about 1%, the overall subscriber base remains about 20 million
- Revenues from remote sensing imagery products and services remained steady at about $1 billion in 2010

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
  - The number of HDTV channels worldwide expanded substantially year-on-year from May 2008 through May 2011
  - More than 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



Satellite Manufacturing Revenues



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

Satellite Manufacturing Findings

- Global Satellite Manufacturing revenues declined 20%, from $13.5 billion to $10.8 billion
- 2010 featured less massive, lower-priced spacecraft compared to the larger and higher-value scientific and military government satellites launched in 2009
  - The value of commercially-procured government satellites launched in 2010 was $7.3 billion, compared to $9.8 billion in 2009
- While year-on-year results tend to see-saw, global Satellite Manufacturing revenues have shown aggregate growth over the past five years
  - From 2005 through 2010, global Satellite Manufacturing revenues rose by 38% overall, with an annual average growth rate of 6%
- U.S. Satellite Manufacturing revenues declined by 27%, from $7.7 billion in 2009 to $5.6 billion in 2010
  - The U.S. share of global satellite manufacturing revenue remained relatively constant, dropping from 57% in 2009 to 52% in 2010
  - U.S. firms earned more than half of satellite manufacturing revenues despite building only 23% of the spacecraft deployed in 2010

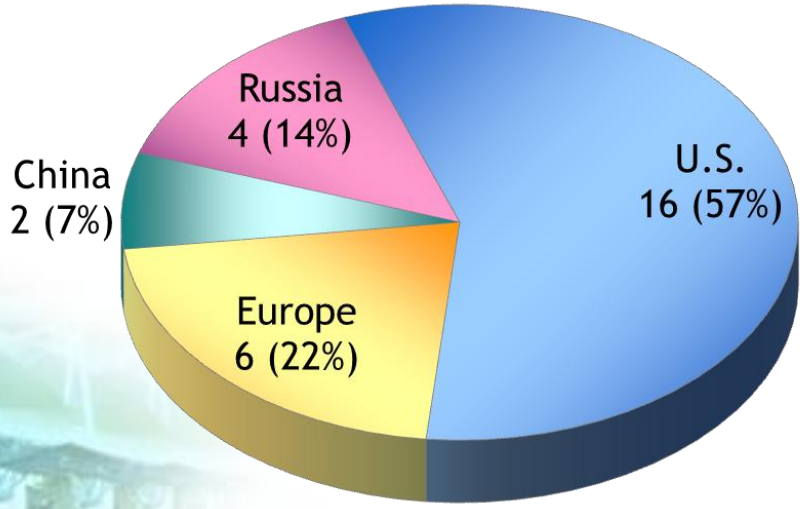
Spacecraft Launched by Mission Type (2010) *

Mission Type	Number of Spacecraft
Commercial Communications	24
Civil/Military Communications	11
Meteorological	2
Navigation	16
Space Science	6
Remote Sensing	9
Military Surveillance	7
Other	10

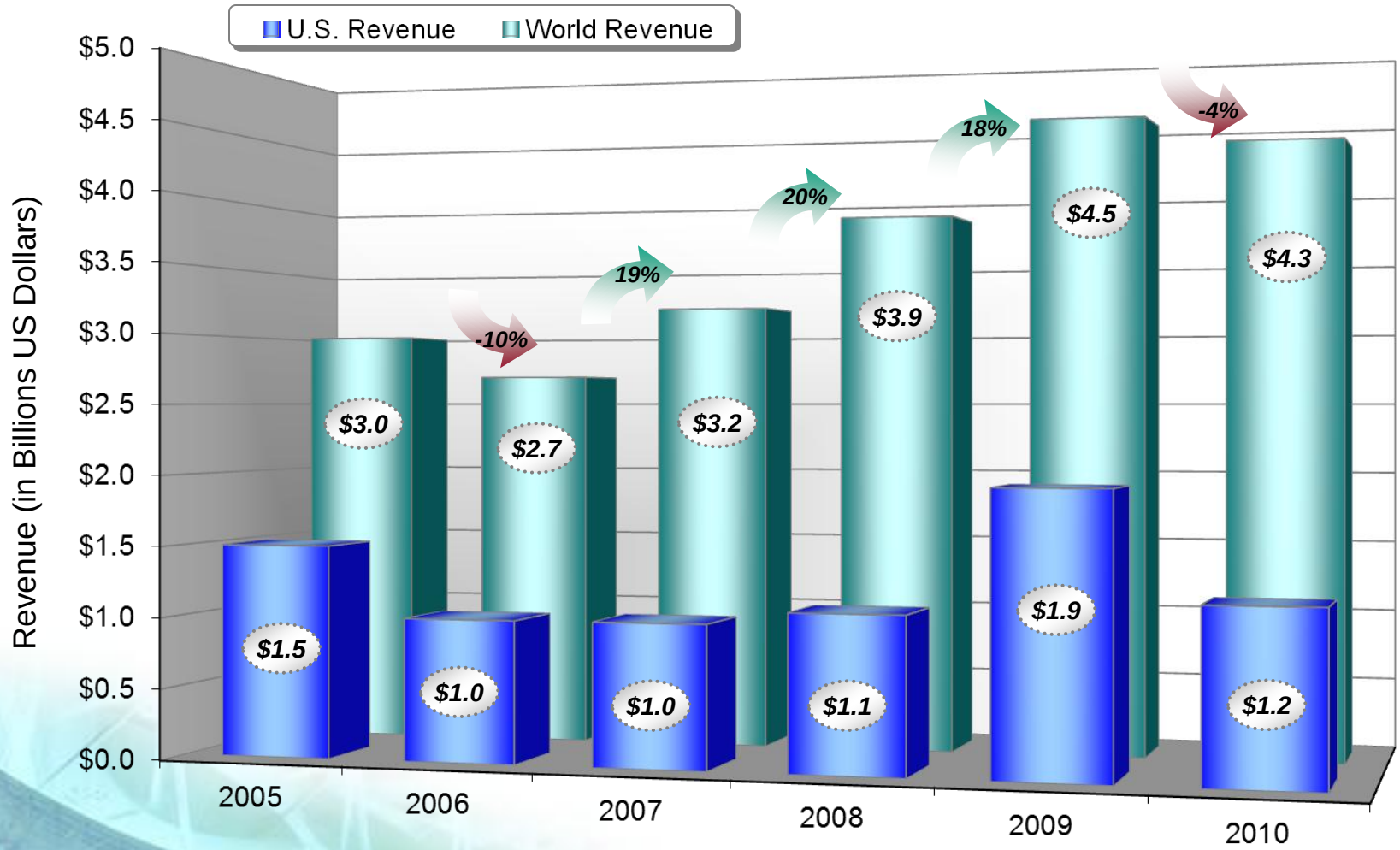
* Does not include government-built, university-built, and/or research satellites

Satellite Manufacturing: Future Indicators

- Future commercial geosynchronous orbit (GEO) spacecraft orders:
  - 28 commercial GEO satellite manufacturing orders were announced in 2010 for future delivery, down 31% from 41 in 2009
    - 16 of these orders, or 57%, went to U.S. manufacturers—an improvement over the 46% of orders won by U.S. vendors in 2009
    - 6, or 21%, went to European manufacturers—a decline from the 29% of orders won by European vendors in 2009
    - 4, or 14%, went to Russian manufacturers—a slight improvement over their 2009 share of 12%
    - 2, or 7%, went to Chinese manufacturers—the same portion as in 2009



Launch Industry Revenues



Note: Launch Industry revenues are recorded in the year the launch occurs, not when contract is awarded or interim payments are transacted. World revenue includes U.S. revenue.

Launch Industry Findings

- Worldwide Launch Industry revenues declined by 4% in 2010, compared with 18% growth in 2009
  - Government launch demand remained the major revenue driver in 2010, accounting for 55% of all commercially-procured launch revenues
  - U.S. launch revenues fell from $1.9 billion to $1.2 billion, lowering the U.S. global revenue share from 42% in 2009 to 27% in 2010
- The number of commercially-procured launches increased 17% in 2010, up to 54 compared to 46 in 2009
  - 54% of these were for launches to LEO
  - 38% were for launches to GEO
  - 7% were for launches to MEO
- Average revenue per launch decreased due to a greater number of smaller-mass or lower-cost launches

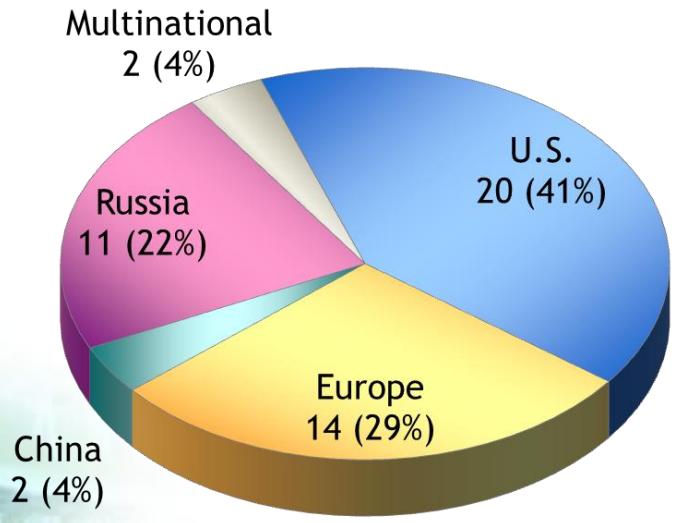
Commercially-Procured Launches by Orbit Type (2010) *

Orbit Type	Number of Launches
Geosynchronous (GEO)	29
Low Earth Orbit (LEO)	21
Medium Earth Orbit (MEO)	4

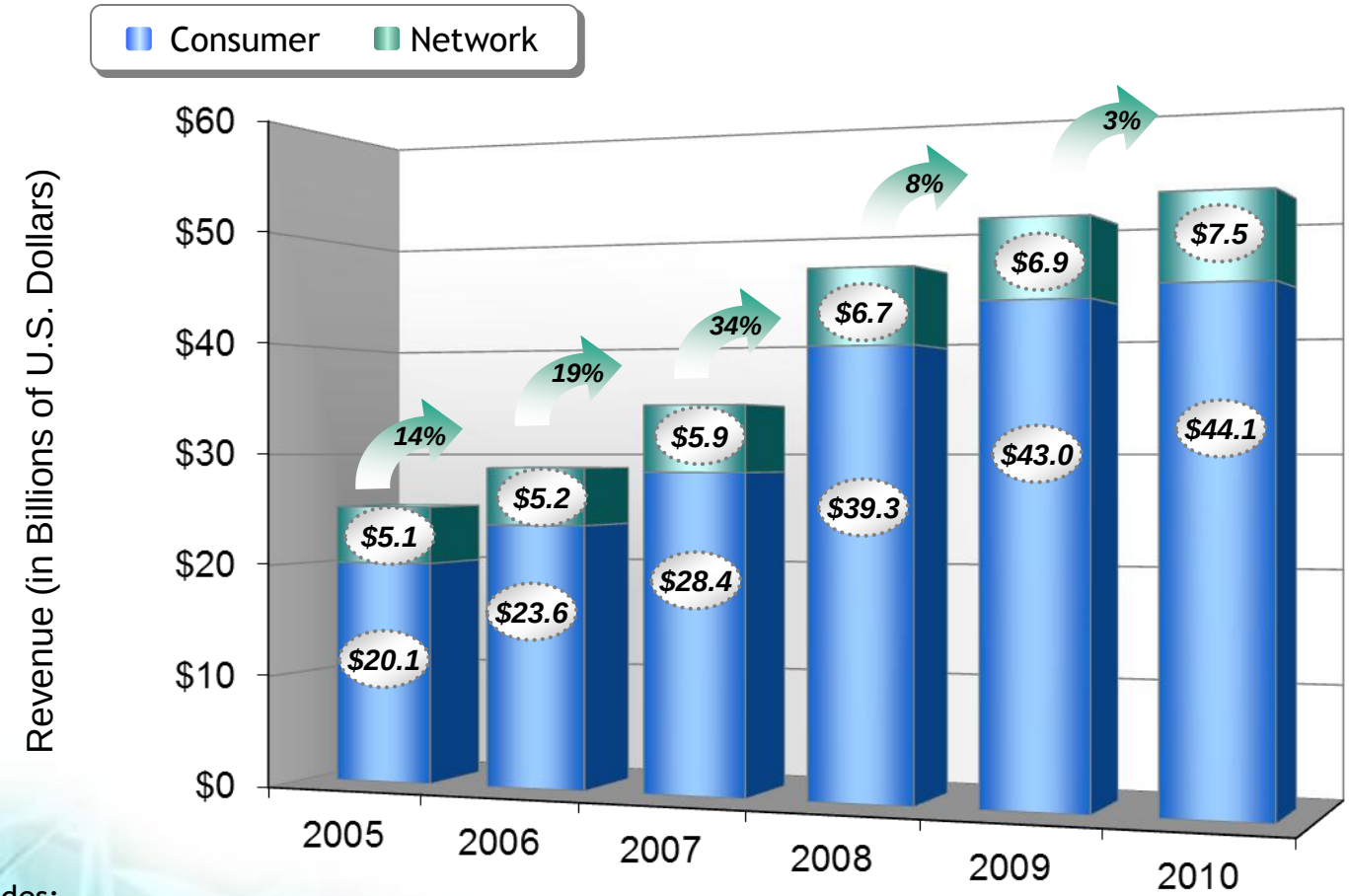
* Does not include launches conducted by government entities for government customers outside of commercial procurement processes

Launch Industry: Future Indicators

- Future commercial launch orders:
  - Commercial launch orders announced in 2010 rose to 49 from 35 in 2009
    - U.S. launch providers received 20 of these orders, a 41% share, down slightly from the 46% of orders announced for U.S. firms in 2009
    - European launch providers received 14 of these orders, or 29%, the same share as in 2009
    - Russian launch providers received 11 of these orders, or 22%, a slight decline from their 27% share in 2009
    - The remaining 4 orders were split between the China Great Wall Industry Corporation and the multinational firms Sea Launch and Land Launch



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 3% in 2010, down from 8% growth the prior year
  - Network equipment sales (including VSATs and other terminals) grew at 8% in 2010, compared with 3% in 2009
  - Consumer equipment terminal sales grew at 3% in 2010, compared with 9% in 2009
- Relative shares within the segment remained constant, with about 15% for Network Equipment revenues and 85% for Consumer Equipment revenues
  - Stand-alone GPS equipment sales (personal navigation devices, in-vehicle navigation systems, shipment tracking devices, and precision measurement instruments) reached over 100 million units in 2010, and continue to represent a growing portion of the Consumer Equipment market

Ground Equipment Findings: Consumer Terminals

- The number of consumer Ground Equipment terminals in service grew across all segments, with the exception of satellite radio, which experienced a slight decline in subscribers

Terminals in Service (Millions)	2009	2010
Satellite TV	141.3	146.8
Satellite Radio	20.4	20.2
Mobile Satellite Services	1.9	2.1
Consumer Satellite Broadband	1.1	1.2
Mobile Satellite TV	1.5	1.8

  - Consumer Equipment terminals tracked closely with numbers of subscribers
  - Growth of consumer satellite broadband in 2010 occurred primarily in the U.S.
    - The number of U.S. satellite broadband subscribers surpassed one million in 2010
  - Mobile Satellite TV (S-DMB) revenues derive from new hand-held video services available primarily in Asian markets

U.S. Satellite Industry Employment (Through 3Q 2010)

- U.S. satellite industry shed 6,856 jobs, or 2.7%, during the first three quarters of 2010
- This follows 12,219 jobs lost from 2008 to 2009, linked to the global economic downturn
- Three of the four industry segments experienced job losses in in 2010
  - Satellite Services lost 5,882 jobs, or 7.2%
  - Launch Industry employment declined by 3,404 jobs, or 6.6%
  - Satellite Manufacturing shed a net 168 jobs, a decline of 0.6%
- The Ground Equipment segment grew by 2,598 jobs, or 2.9%

Satellite Industry Segment	Estimated U.S. Personnel (2009) *	Estimated U.S. Personnel (2010) *
Satellite Services	81,047	75,165
Satellite Manufacturing	26,854	26,686
Launch Industry	51,984	48,580
Ground Equipment	90,651	93,248
Total Estimated U.S. Employees *	**250,536**	**243,680**

* Includes launch tracking and telemetry services

Source: U.S. Bureau of Labor Statistics (BLS). All figures are through 3Q 2010 — the most recent complete data as of June 2011

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)

2010 Global Trend Summary

- Global satellite industry growth continues, but at slower rate of 5%
- Satellite Services continue to represent the single largest industry segment, driven by satellite TV growth of 10%
- Launch Industry and Satellite Manufacturing revenues reflect a history of aggregate growth but yearly fluctuation
- Ground Equipment revenue growth reflects slight but relatively consistent year-on-year consumer and network equipment sales
- U.S. satellite industry employment through the end of 3Q 2010 shows continued decline, reflecting the ongoing impact of the global economic slowdown

For more information on the satellite industry,
please contact info@sia.org

Satellite Industry Association

1200 18th Street, NW

Suite 1001

Washington, DC 20036

202-503-1560

www.sia.org