

Satellite Industry Indicators Fact Sheet



Results of the 2003 Satellite Industry Indicators Study

Conducted for the
Satellite Industry Association
by Futron Corporation



June 2004



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Satellite Industry Indicators Fact Sheet Contents

This fact sheet presents revenue, employment, and other indicators for the satellite industry. Overall indicators are shown first, followed by a breakdown by market segment. These indicators were calculated from results of the Satellite Industry Association's 2003 Satellite Industry Indicators Survey and from publicly available data. All indicators reflect figures as of December 31 of each year. These indicators include revenue and employment of commercial companies engaged in providing products and services to both commercial and government customers. The indicators include satellite and ground equipment manufacturing and launch services data for classified programs where information is available. Government employees are not included in any of the indicators.

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Abbreviations:
B = billion M = million

Global Satellite Industry Revenue

	1996	1997	1998	1999	2000	2001	2002	2003
Satellite Manufacturing ¹	\$8.3 B	\$10.6 B	\$12.4 B	\$10.4 B	\$11.5 B	\$9.5 B	\$12.1 B	\$9.8 B
Launch Industry ²	\$4.2 B	\$4.8 B	\$4.3 B	\$4.3 B	\$5.3 B	\$3.0 B	\$3.7 B	\$3.2 B
Satellite Services	\$15.8 B	\$21.1 B	\$24.4 B	\$29.7 B	\$39.2 B	\$46.5 B	\$49.1 B	\$55.9 B
Transponder leasing ³	\$5.2 B	\$5.7 B	\$6.1 B	\$7.2 B	\$7.7 B	\$7.3 B	\$6.9 B	\$7.4 B
Subscription/retail services ⁴	\$10.6 B	\$15.4 B	\$18.3 B	\$22.5 B	\$31.5 B	\$39.2 B	\$42.2 B	\$48.5 B
Ground Equipment	\$9.7 B	\$12.5 B	\$13.9 B	\$16.0 B	\$17.7 B	\$19.6 B	\$21.2 B	\$22.1 B
TOTAL	\$38.0 B	\$49.1 B	\$55.0 B	\$60.4 B	\$73.7 B	\$78.6 B	\$86.1 B	\$91.0 B

Global Satellite Industry Employment

In past years, manufacturing and launch employment data included prime contractor and subcontractor employment levels. For 2002 and 2003, employee numbers include only prime contractors, which is why historical data is not provided.

	2002	2003
Satellite Manufacturing ⁵	58,794	49,155
Launch Industry ⁶	19,300	14,100
Satellite Services	37,300	44,000
Transponder leasing	5,900	6,800
Subscription/retail services	31,400	37,200
Ground Equipment	68,400	66,800
TOTAL	183,794	174,055

¹ All manufacturing revenue associated with a satellite is captured in the year a satellite is launched.

² All revenue associated with a launch is captured in the year a satellite is launched.

³ The transponder leasing revenue indicators represent satellite system operators offering transponders for sale or lease for full-time or occasional use. These indicators do not include companies engaged in the re-sale or re-lease of transponders or brokering of transponder time/capacity.

⁴ The subscription/retail services indicator encompasses Direct-to-Home (DTH) television services, satellite mobile telephone services, satellite data communications services, direct radio services, Very Small Aperture Terminals (VSAT) services, and the sale of remote sensing imagery and value-added services. Since DTH television, satellite mobile data communication, and VSAT services are sometimes provided over leased transponders, payments to transponder leasing companies by these service providers are reflected in the transponder leasing indicator.

⁵ Employment associated with satellite manufacturing is captured in the year the satellite is launched to avoid double counting, this method can result in some lag in employment data from year to year.

⁶ Employment associated with the launch industry is captured in the year the satellite is launched to avoid double counting, this method can result in some lag in employment data from year to year.

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United States Satellite Industry Revenue

Beginning in 2001, revenue from the sale of ground equipment is only captured at the global level. Thus, data for the United States is not provided for 2001 - 2003 for the Ground Equipment segment.

	1996	1997	1998	1999	2000	2001	2002	2003
Satellite Manufacturing	\$4.9 B	\$6.9 B	\$7.9 B	\$6.6 B	\$6.0 B	\$3.8 B	\$4.4 B	\$4.6 B
Launch Industry	\$2.1 B	\$2.4 B	\$2.4 B	\$2.4 B	\$2.7 B	\$1.1 B	\$1.0 B	\$2.1 B
Satellite Services	\$4.8 B	\$6.3 B	\$7.4 B	\$9.5 B	\$11.8 B	\$15.9 B	\$16.6 B	\$18.2 B
Transponder leasing ⁷	\$1.5 B	\$1.5 B	\$1.5 B	\$2.1 B	\$2.2 B	\$1.3 B	\$1.2 B	\$1.1 B
Subscription/retail services ⁸	\$3.3 B	\$4.8 B	\$5.9 B	\$7.4 B	\$9.6 B	\$14.6 B	\$15.4 B	\$17.1 B
Ground Equipment	\$4.3 B	\$6.5 B	\$7.8 B	\$8.6 B	\$10.7 B	n/a	n/a	n/a
TOTAL	\$16.1 B	\$22.1 B	\$25.5 B	\$27.1 B	\$31.2 B	\$20.8 B	\$22.0 B	\$24.9 B

United States Satellite Industry Employment

In past years, manufacturing and launch employment data included prime contractor and subcontractor employment levels. For 2002 and 2003, employee numbers include only prime contractors, which is why historical data is not provided.

	2002	2003
Satellite Manufacturing ⁹	23,646	22,996
Launch Industry ¹⁰	9,300	6,800
Satellite Services	14,100	20,700
Transponder leasing	1,400	2,200
Subscription/retail services	12,700	18,500
Ground Equipment	n/a	n/a
TOTAL	47,046	50,496

⁷ The transponder leasing revenue indicators represent satellite system operators offering transponders for sale or lease for full-time or occasional use. These indicators do not include companies engaged in the re-sale or re-lease of transponders or brokering of transponder time/capacity.

⁸ The subscription/retail services indicator encompasses Direct-to-Home (DTH) television services, satellite mobile telephone services, satellite data communications services, direct radio services, Very Small Aperture Terminals (VSAT) services, and the sale of remote sensing imagery and value-added services. Since DTH television, satellite mobile data communication, and VSAT services are sometimes provided over leased transponders, payments to transponder leasing companies by these service providers are reflected in the transponder leasing indicator.

⁹ Employment associated with satellite manufacturing is captured in the year the satellite is launched to avoid double counting, this method can result in some lag in employment data from year to year.

¹⁰ Employment associated with the launch industry is captured in the year the satellite is launched to avoid double counting, this method can result in some lag in employment data from year to year.

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Satellite Manufacturing

The satellite manufacturing segment of the satellite industry includes the construction and sale of satellites to both commercial and government customers. The indicators presented below show the revenue from satellite construction contracts. Revenue is shown both for prime contractors only. All satellite manufacturing revenues are recognized in the year of launch.

Global Satellite Manufacturing Revenue

	1996	1997	1998	1999	2000	2001	2002	2003
Commercial	\$4.4 B	\$4.8 B	\$6.4 B	\$6.6 B	\$4.5 B	\$2.9 B	\$3.5 B	\$1.7 B
Government	\$3.9 B	\$5.8 B	\$6.0 B	\$3.8 B	\$7.0 B	\$6.5 B	\$8.6 B	\$8.2 B
TOTAL	\$8.3 B	\$10.6 B	\$12.4 B	\$10.4 B	\$11.5 B	\$9.5 B	\$12.1 B	\$9.8 B

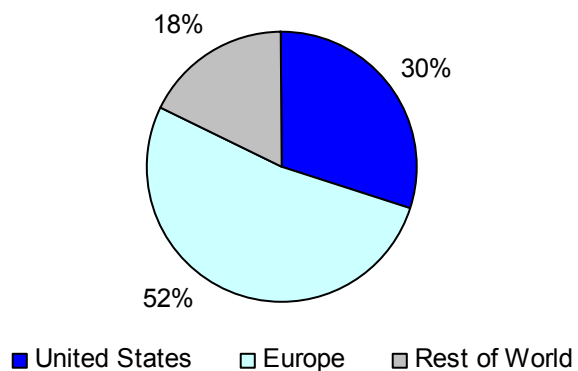
Satellite Manufacturing Revenue by Manufacturer Location

Revenue is assigned to regions based on the geographic location of the manufacturers' headquarters. Historical data show total U.S. and non-U.S. satellite manufacturing revenue. Data for 2002 and 2003 include additional breakouts for the United States, Europe, and Rest of World. Breakouts for 2002 and 2003 are also provided by customer type (commercial and government).

	1996	1997	1998	1999	2000	2001	2002	2003
United States	\$4.9 B	\$6.9 B	\$7.9 B	\$6.6 B	\$6.0 B	\$3.8 B	\$4.4 B	\$4.6 B
Non-United States	\$3.4 B	\$3.7 B	\$4.5 B	\$3.9 B	\$5.5 B	\$5.7 B	\$7.7 B	\$5.2 B
TOTAL	\$8.3 B	\$10.6 B	\$12.4 B	\$10.4 B	\$11.5 B	\$9.5 B	\$12.1 B	\$9.8 B

	2002	2003
United States		
Commercial	\$1,930 M	\$1,180 M
Government	\$2,425 M	\$3,419 M
Europe		
Commercial	\$1,570 M	\$440 M
Government	\$4,200 M	\$2,120 M
Rest of World		
Commercial	\$0 M	\$60 M
Government	\$1,960 M	\$2,620 M
TOTAL	\$12,085 M	\$9,839 M

2003 Manufacturing Market Share by Region



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Satellite Manufacturing Employment

In past years, satellite manufacturing employment data included prime contractor and subcontractor employment levels. For 2002 and 2003, employee numbers include only prime contractors, which is why historical data is not provided. These figures do not include any military or government personnel.

	2002	2003
United States	23,646	22,996
Europe	26,226	12,778
Rest of World	8,922	13,382
TOTAL	58,794	49,155

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Launch Industry

The launch industry segment includes the manufacture of launch vehicles and the provision of launch services. This section provides revenue and employment data for the launch industry. All launch industry revenues are recognized in the year of launch and are shown for prime contractors only. Regional revenue is calculated based on the geographic location of the primary vehicle manufacturers. For example, the Proton launch vehicle is manufactured in Russia and it is counted in the Europe region. On the other hand, Sea Launch, because of its unique international partnerships, is included in the United States region. Revenue from the launch of both commercially-owned and government-owned payloads is included.

Global Launch Industry Revenue by Supplier Location

	1996	1997	1998	1999	2000	2001	2002	2003
United States								
Commercial payloads	\$985 M	\$1,225 M	\$1,080 M	\$1,200 M	\$1,120 M	\$370 M	\$270 M	\$460 M
Government payloads	\$1,100 M	\$1,200 M	\$1,310 M	\$1,160 M	\$1,600 M	\$750 M	\$750 M	\$1,610 M
Europe								
Commercial payloads	\$887 M	\$970 M	\$770 M	\$870 M	\$670 M	\$1,020 M	\$1,530 M	\$740 M
Government payloads	\$129 M	\$130 M	\$240 M	\$230 M	\$1,680 M	\$760 M	\$710 M	\$270 M
Rest of World								
Commercial payloads	\$95 M	\$150 M	\$220 M	\$20 M	\$50 M	\$0 M	\$30 M	\$0 M
Government payloads	\$248 M	\$495 M	\$250 M	\$210 M	\$210 M	\$140 M	\$440 M	\$180 M
Total								
Commercial payloads	\$1,967 M	\$2,345 M	\$2,070 M	\$2,090 M	\$1,840 M	\$1,390 M	\$1,830 M	\$1,200 M
Government payloads	\$1,477 M	\$1,825 M	\$1,800 M	\$1,600 M	\$3,490 M	\$1,650 M	\$1,900 M	\$2,060 M
GRAND TOTAL	\$3,444 M	\$4,170 M	\$3,870 M	\$3,690 M	\$5,330 M	\$3,040 M	\$3,730 M	\$3,260 M

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Satellites Launched in 2003 by Launch Services Provider and Region

Payload Name	Launch Service Provider	Launch Provider Region	Payload Name	Launch Service Provider	Launch Provider Region
Beidou 3	China Great Wall Industry Corp.	Asia	DSCS 3-14	Boeing Launch Services	United States
CBERS/Ziyuan 2	China Great Wall Industry Corp.	Asia	ICESat	Boeing Launch Services	United States
Double Star Equator	China Great Wall Industry Corp.	Asia	Navstar GPS 2R-10	Boeing Launch Services	United States
Jiangbing 4	China Great Wall Industry Corp.	Asia	Navstar GPS 2R-8	Boeing Launch Services	United States
Zhongxing 20	China Great Wall Industry Corp.	Asia	Navstar GPS 2R-9	Boeing Launch Services	United States
IRS P6	Indian Space Research Organization	Asia	Spitzer Space Telescope	Boeing Launch Services	United States
Gsat 2	Indian Space Research Organization	Asia	AMC 9	International Launch Services	United States
Hayabusa	Institute of Space and Astronautical Science	Asia	AsiaSat 4	International Launch Services	United States
IGS 1A	Rocket Systems Corp. (RSC)	Asia	Hellas-Sat 2	International Launch Services	United States
IGS 1B	Rocket Systems Corp. (RSC)	Asia	Rainbow 1	International Launch Services	United States
IGS 2A	Rocket Systems Corp. (RSC)	Asia	UHF F11	International Launch Services	United States
IGS 2B	Rocket Systems Corp. (RSC)	Asia	USA 173	International Launch Services	United States
Mimosa	Eurokot Launch Services GmbH	Eastern Europe	GALEX	Orbital Sciences Corp.	United States
MOST	Eurokot Launch Services GmbH	Eastern Europe	OrbView 3	Orbital Sciences Corp.	United States
SERVIS 1	Eurokot Launch Services GmbH	Eastern Europe	Scisat 1	Orbital Sciences Corp.	United States
Express AM22	Khrunichev State Research and Production Space Center	Eastern Europe	SORCE	Orbital Sciences Corp.	United States
BilSat 1	Puskovie Uslugi	Eastern Europe	EchoStar 9	Sea Launch	United States
BNCSat	Puskovie Uslugi	Eastern Europe	Galaxy 13	Sea Launch	United States
Kaistsat 4	Puskovie Uslugi	Eastern Europe	Thuraya 2	Sea Launch	United States
NigeriaSat 1	Puskovie Uslugi	Eastern Europe	Coriolis	U.S. Air Force	United States
Kosmos 2397	Russian Ministry of Defense	Eastern Europe	DMSP 5D-3-F16	U.S. Air Force	United States
Kosmos 2398	Russian Ministry of Defense	Eastern Europe	Milstar F6	U.S. Air Force	United States
Kosmos 2399	Russian Ministry of Defense	Eastern Europe	USA 171	U.S. Air Force	United States
Kosmos 2400	Russian Ministry of Defense	Eastern Europe	BSat 2C	Arianespace	Western Europe
Kosmos 2401	Russian Ministry of Defense	Eastern Europe	eBird	Arianespace	Western Europe
Kosmos 2402	Russian Ministry of Defense	Eastern Europe	Galaxy 12	Arianespace	Western Europe
Kosmos 2403	Russian Ministry of Defense	Eastern Europe	Insat 3A	Arianespace	Western Europe
Kosmos 2404	Russian Ministry of Defense	Eastern Europe	Insat 3E	Arianespace	Western Europe
Molniya 1T	Russian Ministry of Defense	Eastern Europe	Intelsat 907	Arianespace	Western Europe
Molniya 3-53	Russian Ministry of Defense	Eastern Europe	Optus C1	Arianespace	Western Europe
Yamal 201	Russian Ministry of Defense	Eastern Europe	SMART 1	Arianespace	Western Europe
Yamal 202	Russian Ministry of Defense	Eastern Europe	Amos 2	Starsem	Western Europe
CHIPSat	Boeing Launch Services	United States	Beagle 2	Starsem	Western Europe
DSCS 3-13	Boeing Launch Services	United States	Mars Express Orbiter	Starsem	Western Europe

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Launch Services Employment

The employment indicators presented include employees engaged in both vehicle manufacturing and launch services. These figures do not include personnel at launch facilities. In past years, manufacturing and launch employment data included prime contractor and subcontractor employment levels. For 2002 and 2003, employee numbers include only prime contractors, which is why historical data is not provided.

	2002	2003
United States	9,300	6,800
Non-United States	10,000	7,300
TOTAL	19,300	14,100

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Satellite Services

The satellite services segment includes transponder leasing and subscription/retail services. The transponder leasing revenue indicator represents satellite system operators offering transponders for sale or lease for full-time or occasional use. These indicators do not include companies engaged in the re-sale or re-lease of transponders or brokering of transponder time/capacity. The subscription and retail services indicator includes "consumer-focused" services (Direct to Home (DTH), Digital Audio Radio Services (DARS), and satellite broadband) and "other" subscription services (mobile satellite telephony, VSAT, and mobile data services such as messaging and paging, and remote sensing). Since DTH, satellite mobile data communication, and VSAT services are sometimes provided over leased transponders, payments to transponder leasing companies by these service providers are reflected in the transponder leasing indicator.

Global Satellite Services Revenue

	1996	1997	1998	1999	2000	2001	2002	2003
Transponder leasing	\$5.2 B	\$5.7 B	\$6.1 B	\$7.2 B	\$7.7 B	\$7.3 B	\$6.9 B	\$7.4 B
Subscription/retail services	\$10.6 B	\$15.4 B	\$18.3 B	\$22.5 B	\$31.5 B	\$39.2 B	\$42.2 B	\$48.5 B
TOTAL	\$15.8 B	\$21.1 B	\$24.4 B	\$29.7 B	\$39.2 B	\$ 46.5 B	\$49.1 B	\$55.9 B

	1996	1997	1998	1999	2000	2001	2002	2003
FSS	\$6.1 B	\$6.8 B	\$7.3 B	\$8.6 B	\$9.2 B	\$8.9 B	\$8.7 B	\$9.6 B
DBS	\$9.0 B	\$13.5 B	\$16.1 B	\$19.8 B	\$27.9 B	\$36.2 B	\$39.1 B	\$44.7 B
MSS	\$0.7 B	\$0.8 B	\$1.0 B	\$1.3 B	\$2.1 B	\$1.4 B	\$1.3 B	\$1.7 B
TOTAL	\$15.8 B	\$21.1 B	\$24.4 B	\$29.7 B	\$39.2 B	\$46.5 B	\$49.1 B	\$55.9 B

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Satellite Services: Transponder Leasing Services

The transponder leasing services market consists of companies that operate satellites and lease or sell satellite transponder capacity on a full-time or occasional use basis. These transponders are typically used to provide video and radio services, data/business services, and telephone relay services.

Transponder capacity or time is sometimes re-leased or re-sold. The indicators below do not include revenue or employment associated with the re-sale or re-lease of transponder capacity or transponder time by companies other than the satellite operators.

Transponder Leasing Revenue by Supplier

Revenue is assigned to regions based on the geographic location of the transponder lease providers' headquarters with the exception of Intelsat, which is included in the non-U.S. category. Historical data show total U.S. and non-U.S. transponder leasing revenue. Data for 2002 and 2003 include additional breakouts for the United States, North/South America (non-U.S.), Middle East/Africa, Asia/Oceania, and Europe.

	1996	1997	1998	1999	2000	2001	2002	2003
United States	\$1,500 M	\$1,540 M	\$1,460 M	\$2,140 M	\$2,180 M	\$1,300 M	\$1,190 M	\$1,140 M
Non-United States	\$3,700 M	\$4,210 M	\$4,600 M	\$5,080 M	\$5,490 M	\$5,890 M	\$5,700 M	\$6,230 M
TOTAL	\$5,200 M	\$5,750 M	\$6,060 M	\$7,220 M	\$7,670 M	\$7,190 M	\$6,890 M	\$7,370 M

	2002	2003
United States	\$1,190 M	\$1,140 M
North/South America (non-U.S.)	\$720 M	\$450 M
Middle East/Africa	\$320 M	\$190 M
Asia/Oceania	\$1,330 M	\$1,690 M
Europe	\$3,330 M	\$3,890 M
TOTAL	\$6,880 M	\$7,360 M

Global Transponder Leasing Employment

	1996	1997	1998	1999	2000	2001	2002	2003
Transponder Leasing Employees	5,900	5,300	6,400	8,400	7,300	7,000	5,900	5,900

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Satellite Services: Consumer-Focused Services

Consumer-focused satellite services include DTH, Digital Audio Radio Services (DARS), and Broadband. The indicators for DTH services below encompass a variety of DTH services worldwide. High power digital Direct Broadcast Satellite (DBS) services, medium power digital DTH services, and subscription C-band services are all represented in the indicators below. Other consumer-focused services below include satellite radio (DARS) and high-speed Internet access via satellite to residential and business users.

Global Revenue from Consumer-Focused Services

	1996	1997	1998	1999	2000	2001	2002	2003
Revenues from Consumer-Focused Services	\$9.0 B	\$13.5 B	\$16.1 B	\$19.8 B	\$27.9 B	\$36.2 B	\$39.1 B	\$44.7 B

Revenue from DTH Services

	1996	1997	1998	1999	2000	2001	2002	2003
United States	\$3.1 B	\$4.5 B	\$4.8 B	\$6.1 B	\$7.8 B	\$12.4 B	\$13.1 B	\$14.3 B
Non-United States	\$5.9 B	\$9.0 B	\$11.3 B	\$13.7 B	\$20.1 B	\$23.1 B	\$25.4 B	\$29.5 B
TOTAL	\$9.0 B	\$13.5 B	\$16.1 B	\$19.8 B	\$27.9 B	\$35.5 B	\$38.5 B	\$43.8 B

Revenue from DARS and Broadband Services

Although satellite broadband came into service approximately in 1999, SIA began tracking revenues for this service segment in 2001. In addition, DARS service began in 2001. Therefore historical data is not available for these two services.

	2001	2002	2003
United States	\$0.7 B	\$0.6 B	\$0.9 B
Non-United States	\$0.0 B	\$0.0 B	\$0.0 B
TOTAL	\$0.7 B	\$0.6 B	\$0.9 B

Global Employment for Consumer-Focused Services

	1996	1997	1998	1999	2000	2001	2002	2003
Consumer-Focused Service Industry Employees	4,500	5,600	6,700	8,200	11,600	17,700	18,800	77,800

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Satellite Services: Other Satellite Subscription Services

Other satellite subscription services include mobile satellite telephony, VSAT, and mobile data services such as messaging and paging. The indicators below address only the provision of services, not the costs of the mobile user equipment, which is covered in the Ground Equipment segment.

Total Revenue from Other Satellite Subscription Services

	1996	1997	1998	1999	2000	2001	2002	2003
Revenues from Other Satellite Subscription Services	\$1,459 M	\$1,731 M	\$2,020 M	\$2,572 M	\$3,380 M	\$2,810 M	\$2,830 M	\$3,450 M

Revenue from Mobile Satellite Telephone Services

Mobile satellite telephony services are voice and fax services provided to land-based, seagoing, or airborne mobile subscribers who use terminals of various sizes to link to GEO satellites. The indicators below capture the revenue generated by businesses providing satellite mobile telephone services from GEO.

	1996	1997	1998	1999	2000	2001	2002	2003
United States ¹¹	\$38 M	\$43 M	\$41 M	\$65 M	\$190 M	\$150 M	\$190 M	\$240 M
Non-United States ¹²	\$130 M	\$145 M	\$145 M	\$172 M	\$190 M	\$260 M	\$340 M	\$510 M
TOTAL	\$168 M	\$188 M	\$186 M	\$237 M	\$380 M	\$410 M	\$530 M	\$750 M

¹¹For mobile satellite telephone services that are international and serve the United States, estimated revenue is distributed based on the assumed percentage of revenue going to U.S. interests.

¹²For systems that provide both mobile data and telephone services (such as Inmarsat), only revenues from telephone applications are counted here; those from mobile data applications are counted in the "Revenue from Satellite Mobile Data Services" statistics.

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Revenue from VSAT Services

VSAT services consist of satellite-based data communication networks that connect many sites through a GEO transponder or transponders.

	1996	1997	1998	1999	2000	2001	2002	2003
United States	\$457 M	\$534 M	\$564 M	\$684 M	\$700 M	\$800 M	\$900 M	\$1,100 M
Non-United States	\$294 M	\$369 M	\$451 M	\$591 M	\$600 M	\$600 M	\$600 M	\$700 M
TOTAL	\$751 M	\$903 M	\$1,015 M	\$1,275 M	\$1,300 M	\$1,400 M	\$1,500 M	\$1,800 M

Revenue from Mobile Satellite Data Services

Mobile satellite data services include messaging, paging, and asset-tracking services that require small user terminals and GEO or LEO satellites.

	1996	1997	1998	1999	2000	2001	2002	2003
United States ¹³	\$200 M	\$240 M	\$310 M	\$430 M	\$700 M	\$300 M	\$300 M	\$200 M
Non-United States	\$340 M	\$400 M	\$510 M	\$630 M	\$1,000 M	\$700 M	\$500 M	\$700 M
TOTAL	\$540 M	\$640 M	\$820 M	\$1,060 M	\$1,700 M	\$1,000 M	\$800 M	\$900 M

Global Employment for Other Satellite Subscription Services

(Includes VSAT, mobile data, and satellite telephone services)

	1996	1997	1998	1999	2000	2001	2002	2003
Other Satellite Subscription Service Employees	4,200	6,201	6,406	9,400	12,700	10,700	11,500	11,400

¹³ For systems that provide both mobile data and telephone services (such as Inmarsat) only revenues from data applications are counted here, those from mobile telephone applications are counted in the "Revenue from Mobile Satellite Telephone Services" statistic.

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Satellite Services: Remote Sensing

The data presented here represents total revenue from satellite imagery sales and closely related services only, such as creating orthorectified scenes or other first-order processing. It does not include other added value services or enabled products such as GIS or cartography. The revenue for the value-added industry, which incorporates imagery from aerial and satellite platforms, is estimated to be 8 to 10 times as large as the revenue from satellite imagery sales alone.

Global Revenue from the Commercial Sale of Remote Sensing Imagery

	1996	1997	1998	1999	2000	2001	2002	2003
TOTAL REVENUE	\$100 M	\$120 M	\$140 M	\$150 M	\$170 M	\$200 M	\$280 M	\$380 M

Global Remote Sensing Imagery Sales Employment

	1996	1997	1998	1999	2000	2001	2002	2003
TOTAL EMPLOYEES	500	500	520	640	720	800	1,100	1,220

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Ground Equipment

The indicators for the ground equipment segment of the satellite market include data from four categories: major satellite-related hardware (e.g. gateways and satellite control stations); mobile uplink equipment (e.g. SNG trucks and flyaways); VSATs and Ultra Small Aperture Terminals (USATs); and consumer electronics (e.g. DBS dishes, satellite radio equipment, phone booths, and satellite phones).

Global Ground Equipment Manufacturing Revenue

	1996	1997	1998	1999	2000	2001	2002	2003
TOTAL REVENUE	\$9.7 B	\$12.5 B	\$13.9 B	\$16.0 B	\$17.7 B	\$19.6 B	\$21.2 B	\$22.1 B

Global Ground Equipment Manufacturing Employment

	1996	1997	1998	1999	2000	2001	2002	2003
TOTAL EMPLOYEES	39,000	40,000	44,400	51,200	56,600	62,900	68,400	70,700

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