



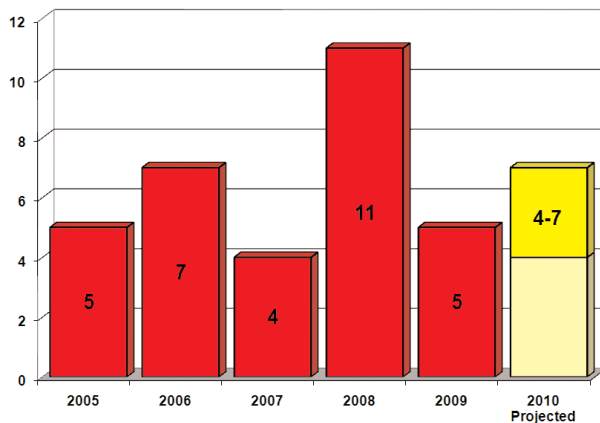
### FIVE ORBITAL FAA-LICENSED LAUNCHES IN CALENDAR YEAR 2009

In 2009 the Federal Aviation Administration's (FAA) Office of Commercial Space Transportation licensed five orbital launches valued at approximately \$398 million, including:

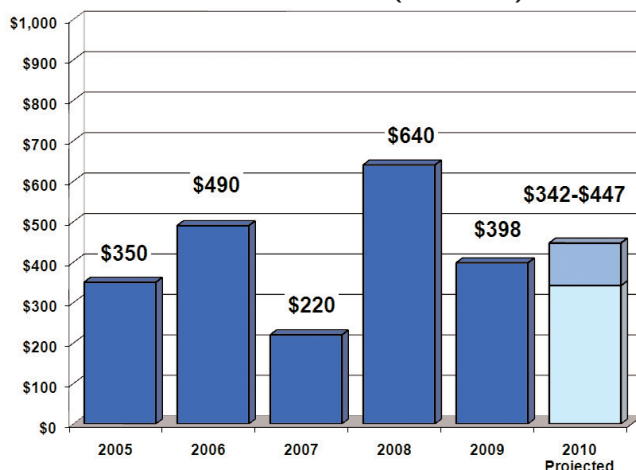
- One Delta II vehicle from Vandenberg Air Force Base;
- One Delta IV vehicle from Cape Canaveral;
- One Falcon 1 vehicle from Kwajalein Atoll;
- One Zenit 3SL launch conducted by the multinational service provider Sea Launch; and
- One Atlas V vehicle from Cape Canaveral.

This year's total FAA-licensed launches marks a decrease over last year's count. No commercial suborbital launches occurred in 2009.

**FAA-Licensed Commercial Orbital and Suborbital Launch Trend**



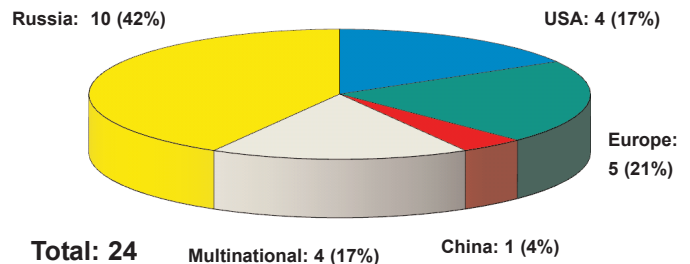
**U.S. Commercial Orbital and Suborbital Launch Revenue Trend (Estimated)**



### GLOBAL ORBITAL COMMERCIAL LAUNCH MARKET SHARE FOR 2009

Russia continues to lead the market with ten launches in 2009. Europe matched its 2008 performance with five launches. The share of launches of vehicles manufactured by the United States decreased from 6 launches in 2008 to four launches in 2009. The multinational Sea Launch conducted one launch prior to entering bankruptcy in 2009. Land Launch conducted three launches in 2009. China returned to the commercial launch market with one launch.

**Worldwide Distribution of Orbital Commercial Launches in 2009**



### FIVE-YEAR ORBITAL COMMERCIAL LAUNCH TRENDS WORLDWIDE

Twenty-four commercial orbital launches occurred in 2009, which is close to the five-year average of 23. Nineteen commercial launches to geosynchronous orbit occurred, marking a five-year high. Only five launches to non-geosynchronous orbits occurred, tying the previous low in 2006. The U.S. (excluding Sea Launch) conducted an average of three commercial orbital launches per year from 2005 to 2009, while Europe and Russia have conducted an average of five and ten, respectively. The multinational ventures, Sea Launch and Land Launch, conducted an average of four launches.

### FAA-LICENSED VEHICLES LAUNCHED IN 2009

|                                | Sea Launch                                                                           | United States                                                                         |                                                                                       |                                                                                       |                                                                                       |
|--------------------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
|                                |  |  |  |  |  |
| Vehicle                        | Zenit 3SL                                                                            | Falcon 1                                                                              | Delta II                                                                              | Delta IV                                                                              | Atlas V                                                                               |
| FY 2009 Total Launches         | 1                                                                                    | 1                                                                                     | 8                                                                                     | 3                                                                                     | 5                                                                                     |
| FY2009 Licensed Launches       | 1                                                                                    | 1                                                                                     | 1                                                                                     | 1                                                                                     | 1                                                                                     |
| FY 2009 Reliability            | 1/1 (100%)                                                                           | 1/1 (100%)                                                                            | 8/8 (100%)                                                                            | 3/3 (100%)                                                                            | 5/5 (100%)                                                                            |
| 10-Year Reliability            | 26/28 (93%)                                                                          | 2/5 (40%)                                                                             | 60/60 (100%)                                                                          | 11/11 (100%)                                                                          | 19/19 (100%)                                                                          |
| Maximum LEO Capacity - kg (lb) | 15,246 (33,541)                                                                      | 454 (1,000)                                                                           | 6,100 (13,440)                                                                        | 22,560 (49,740)                                                                       | 20,520 (45,240)                                                                       |
| Maximum GEO Capacity - kg (lb) | 6,100 (13,440)                                                                       | -                                                                                     | 2,170 (4,790)                                                                         | 12,980 (28,620)                                                                       | 8,670 (19,110)                                                                        |



## WORLDWIDE ORBITAL AND SUBORBITAL COMMERCIAL LAUNCH EVENTS IN 2009

| Date           | Vehicle           | Site             | Payload(s)                                                                           | Operator                                                                                                                                          | Manufacturer                                                                                                                                            | Use                                                                                                      | Commercial Price | L                          | M                |
|----------------|-------------------|------------------|--------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|------------------|----------------------------|------------------|
| United States  |                   |                  |                                                                                      |                                                                                                                                                   |                                                                                                                                                         |                                                                                                          |                  |                            |                  |
| 6/27/2009      | ✓ Delta IV Medium | Cape Canaveral   | GOES O                                                                               | NOAA                                                                                                                                              | The Boeing Company                                                                                                                                      | Weather                                                                                                  | \$100-180M       | S                          | S                |
| 7/13/2009      | ✓ Falcon 1        | Kwajalein        | RazakSAT                                                                             | Malaysia National Space Agency                                                                                                                    | Astronautic Tech. (M) Sdn Bhd                                                                                                                           | Remote Sensing                                                                                           | \$7-9M           | S                          | S                |
| 10/8/2009      | ✓ Delta II        | Vandenberg       | * WorldView 2                                                                        | DigitalGlobe                                                                                                                                      | Ball Aerospace & Tech. Corp.                                                                                                                            | Remote Sensing                                                                                           | \$60-70M         | S                          | S                |
| 11/23/2009     | ✓ Atlas V         | Cape Canaveral   | * Intelsat 14                                                                        | Intelsat                                                                                                                                          | Space Systems/Loral                                                                                                                                     | Communications                                                                                           | \$110-140M       | S                          | S                |
| China          |                   |                  |                                                                                      |                                                                                                                                                   |                                                                                                                                                         |                                                                                                          |                  |                            |                  |
| 8/31/2009      | Long March 3B     | Xichang          | * Palapa D                                                                           | PT Indosat Tbk                                                                                                                                    | Thales Alenia Space                                                                                                                                     | Communications                                                                                           | \$60-80M         | P                          | S                |
| Europe         |                   |                  |                                                                                      |                                                                                                                                                   |                                                                                                                                                         |                                                                                                          |                  |                            |                  |
| 2/12/2009      | Ariane 5 ECA      | Kourou           | * Hot Bird 10<br>* NSS 9<br>* SPIRALE 1<br>* SPIRALE 2                               | Eutelsat<br>SES World Skies<br>DGA<br>DGA                                                                                                         | EADS Astrium<br>Orbital Sciences Corp.<br>Alcatel Espace<br>Alcatel Espace                                                                              | Communications<br>Communications<br>Communications<br>Communications                                     | \$200-220M       | S                          | S<br>S<br>S<br>S |
| 7/1/2009       | Ariane 5 ECA      | Kourou           | * TerreStar 1                                                                        | TerreStar Networks Inc.                                                                                                                           | Space Systems/Loral                                                                                                                                     | Communications                                                                                           | \$140M           |                            | S                |
| 8/21/2009      | Ariane 5 ECA      | Kourou           | * Optus D3<br>* JCSAT 12                                                             | Singtel/Optus<br>Japan Satellite Systems (JSAT)                                                                                                   | Orbital Sciences Corp.<br>Lockheed Martin                                                                                                               | Communications<br>Communications                                                                         | \$200-220M       | S                          | S<br>S           |
| 10/1/2009      | Ariane 5 ECA      | Kourou           | * Amazonas 2<br>* COMSATBw 1                                                         | Hispasat<br>German Defense Ministry                                                                                                               | EADS Astrium<br>EADS Astrium                                                                                                                            | Communications<br>Communications                                                                         | \$200-220M       | S                          | S<br>S           |
| 10/29/2009     | Ariane 5 ECA      | Kourou           | * NSS 12<br>* Thor 6                                                                 | SES World Skies<br>Telenor A.S.                                                                                                                   | Space Systems/Loral<br>Thales Alenia Space                                                                                                              | Communications<br>Communications                                                                         | \$200-220M       | S                          | S<br>S           |
| Multi-National |                   |                  |                                                                                      |                                                                                                                                                   |                                                                                                                                                         |                                                                                                          |                  |                            |                  |
| 2/26/2009      | Zenit 3SLB        | Baikonur         | * Telstar 11N                                                                        | Loral Skynet                                                                                                                                      | Space Systems/Loral                                                                                                                                     | Communications                                                                                           | \$55-65M         | S                          | S                |
| 4/20/2009      | ✓ Zenit 3SL       | Odyssey Platform | Sicral 1B                                                                            | Italian Ministry of Defense                                                                                                                       | Thales Alenia Space                                                                                                                                     | Communications                                                                                           | \$80-100M        | S                          | S                |
| 6/21/2009      | Zenit 3SLB        | Baikonur         | * Measat 3A                                                                          | MEASAT Satellite Systems Sdn. Bhd.                                                                                                                | Orbital Sciences Corp.                                                                                                                                  | Communications                                                                                           | \$55-65M         | S                          | S                |
| 12/1/2009      | Zenit 3SLB        | Baikonur         | * Intelsat 15                                                                        | Intelsat                                                                                                                                          | Orbital Sciences Corp.                                                                                                                                  | Communications                                                                                           | \$55-65M         | S                          | S                |
| Russia         |                   |                  |                                                                                      |                                                                                                                                                   |                                                                                                                                                         |                                                                                                          |                  |                            |                  |
| 3/17/2009      | Rocket            | Plesetsk         | GOCE                                                                                 | European Space Agency                                                                                                                             | Thales Alenia Space                                                                                                                                     | Scientific                                                                                               | \$10-15M         | S                          | S                |
| 4/3/2009       | Proton M          | Baikonur         | * Eutelsat W2A                                                                       | Eutelsat                                                                                                                                          | Thales Alenia Space                                                                                                                                     | Communications                                                                                           | \$90-100M        | S                          | S                |
| 5/16/2009      | Proton M          | Baikonur         | * Protostar II                                                                       | Protostar Ltd.                                                                                                                                    | Boeing Satellite Systems                                                                                                                                | Communications                                                                                           | \$90-100M        | S                          | S                |
| 7/1/2009       | Proton M          | Baikonur         | * Sirius FM-5                                                                        | Sirius Satellite Radio Inc.                                                                                                                       | Space Systems/Loral                                                                                                                                     | Communications                                                                                           | \$90-100M        | S                          | S                |
| 7/29/2009      | Dnepr 1           | Baikonur         | * AprizeStar 3<br>* AprizeStar 4<br>* DEIMOS<br>DubaiSat-1<br>Nanosat 1B<br>UK DMC 2 | Aprize Satellite<br>Aprize Satellite<br>Deimos Imaging SL<br>EIAST<br>Instituto Nacional de Tecnica Aeroespacial<br>British National Space Centre | SpaceQuest, Ltd.<br>SpaceQuest, Ltd.<br>Surrey Satellite Technology Ltd.<br>KARI<br>Inst. Nacional de Tecnica Aero.<br>Surrey Satellite Technology Ltd. | Communications<br>Communications<br>Remote Sensing<br>Remote Sensing<br>Communications<br>Remote Sensing | \$10-15M         | S<br>S<br>S<br>S<br>S<br>S |                  |
| 8/11/2009      | Proton M          | Baikonur         | * Asiasat 5                                                                          | Asia Satellite Telecommunications Co.                                                                                                             | Space Systems/Loral                                                                                                                                     | Communications                                                                                           | \$90-100M        | S                          | S                |
| 9/18/2009      | Proton M          | Baikonur         | * Nimiq 5                                                                            | Telesat Canada                                                                                                                                    | Space Systems/Loral                                                                                                                                     | Communications                                                                                           | \$90-100M        | S                          | S                |
| 11/2/2009      | Rocket            | Plesetsk         | SMOS<br>Proba 2                                                                      | European Space Agency<br>European Space Agency                                                                                                    | Thales Alenia Space<br>Verhaert Design & Development                                                                                                    | Scientific<br>Development                                                                                | \$10-15M         | S                          | S<br>S           |
| 11/23/2009     | Proton M          | Baikonur         | * Eutelsat W7                                                                        | Eutelsat                                                                                                                                          | Thales Alenia Space                                                                                                                                     | Communications                                                                                           | \$90-100M        | S                          | S                |
| 12/29/2009     | Proton M          | Baikonur         | * DirecTV 12                                                                         | DirecTV                                                                                                                                           | The Boeing Company                                                                                                                                      | Communications                                                                                           | \$90-100M        | S                          | S                |

Commercial prices are estimates only.

\* Denotes a commercial payload, defined as a spacecraft which serves a commercial function or is operated by a commercial entity.

✓ Denotes a commercial launch licensed by the Federal Aviation Administration's (FAA) Office of Commercial Space Transportation.

L Denotes launch outcome (S-Success, F-Failure, and P-Partial). M denotes mission outcome (S-Success, F-Failure, and P-Partial).

## FAA-PERMITTED LAUNCHES IN 2009

| Flight Date                       | Operator | Vehicle | Launch Site |
|-----------------------------------|----------|---------|-------------|
| No FAA-permitted launches in 2009 |          |         |             |