STAR
Space Transportation Analysis and Research Database
STAR: Space Transportation Analysis and Research Database

- FAA AST-owned orbital and suborbital launch database
  - Web-based catalog of over 5,300 past (since 1957) launch events worldwide, and associated payloads
  - Continually updated with publicly available launch data
  - Updated Calendar of worldwide launch events
  - Standard reports and summary charts on launch and reentry events, launch vehicles and their components, payloads, launch organizations and launch sites
Structure and Basic Content

Launch Events

Launch Vehicles
- Vehicle Type
- Vehicle Family
- Country
- Status
- Introduction Year
- Launch Service Provider
- Launch Sites
- Capacity
- Number of Stages
- Weight, Length, and Diameter
- Historic Success and Failure

Organizations
- Classification
- Organization Type
- Country
- Parent Company

Launch Sites
- Site Name
- Country
- Operator
- Introduction Year
- Status

Payloads
- System Name
- Payload Type
- Orbit Type
- Operator
- Orbital Location
- Country
- Launch Date
- Use
- Payload Service Type
- Operational Status
- Manufacturer
- Mass

Vehicle Fairing and Stages
- Fairing Name
- Lengths/Diameters
- Number of Stages
- Manufacturer
- Thrust
- Propellant
## Commercial Space Transportation Market

June 2011

Federal Aviation Administration

### Launch Calendar

<table>
<thead>
<tr>
<th>SUN</th>
<th>MON</th>
<th>TUE</th>
<th>WED</th>
<th>THU</th>
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<tbody>
<tr>
<td>27</td>
<td>Baikonur Kzsaat 3 Proton M/Breeze-M Government Civil Success</td>
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<td></td>
<td>Kourou Kazakhstan 1 Vega Government Civil Success</td>
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</table>

### STAR Home Screen
Demonstration, Continued

• The STAR home screen contains the following information and links to more data:
  • Launch calendar of past and planned launches for the current month with the names of launch site, launch vehicle, and primary payload, as well as payload service type and launch outcome for past launches
    • Calendar can be scrolled to the previous or future months
  • Links to the data screens on Launch Events, Vehicles, Organizations, Launch Sites, Payloads, Vehicle fairings and Stages, and Reentry Events
  • Standard reports in table and/or chart format
  • Select sample reports are presented in the following slides
  • Our colleagues from The Tauri Group are available during the rest of the COMSTAC meeting for brief introduction tutorial sessions on using STAR
Sample Reports: 2014 YTD Launch Summary

<table>
<thead>
<tr>
<th>Country of Launch Site</th>
<th>Launch Outcome</th>
<th>Commercial Number of Launch events</th>
<th>Non-commercial Number of Launch events</th>
<th>Totals Number of Launch events</th>
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</thead>
<tbody>
<tr>
<td>China</td>
<td>Success</td>
<td>-</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Europe</td>
<td>Success</td>
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<td>India</td>
<td>Success</td>
<td>-</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Israel</td>
<td>Success</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Japan</td>
<td>Success</td>
<td>-</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Russia</td>
<td>Success</td>
<td>1</td>
<td>7</td>
<td>8</td>
</tr>
<tr>
<td>USA</td>
<td>Success</td>
<td>3</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td>Totals (10 groups)</td>
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2013 Launch Summary

<table>
<thead>
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<th>Country of Launch Site</th>
<th>Launch Outcome</th>
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<th>Non-commercial</th>
<th>Totals</th>
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<td>Europe</td>
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<td>India</td>
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<td>3</td>
<td>3</td>
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<tr>
<td>Japan</td>
<td>Success</td>
<td>.</td>
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<td>3</td>
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<tr>
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<td>1</td>
</tr>
<tr>
<td>Russia</td>
<td>Failure</td>
<td>.</td>
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<tr>
<td>Russia</td>
<td>Success</td>
<td>12</td>
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<tr>
<td>South Korea</td>
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<td>1</td>
</tr>
<tr>
<td>USA</td>
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<td>19</td>
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<tr>
<td>Totals (13 groups)</td>
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### 2013 Orbital Launches Successes vs. Failures

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<th>Launch Outcome</th>
<th>Commercial</th>
<th>Non-commercial</th>
<th>Totals</th>
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<tbody>
<tr>
<td></td>
<td>Number of Launch events</td>
<td>Number of Launch events</td>
<td>Number of Launch events</td>
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<tr>
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<td>Success</td>
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<td>Totals (5 groups)</td>
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</table>
Sample Reports: 2013 Orbital Launches

Pie Chart: 2013 Orbital Launches by Country

- China: 32 launches
- Europe: 1 launch
- India: 15 launches
- Japan: 7 launches
- Multinational: 3 launches
- Russia: 3 launches
- South Korea: 1 launch
- USA: 1 launch
Sample Reports: 2013 Commercial Orbital Launches

Pie Chart: 2013 Commercial Orbital Launches by Country

- **Russia**: 12
- **USA**: 6
- **Europe**: 4
- **Multinational**: 1

Legend:
- Blue: Europe
- Black: Multinational
- Green: Russia
- Red: USA
Sample Reports: 2013 Commercial Orbital Launch Revenues
STAR: more info

- STAR is a web-based tool, powered by QuickBase
- STAR is updated daily, using publicly available data
  - Publications
  - Online Databases
  - Web Content including:
    - Government launch manifests and forecasts
    - Press releases, launch schedules, and technical vehicle and spacecraft information from launch service providers and launch vehicle and spacecraft manufacturers, satellite operators, and industry watchers
- Maintained by The Tauri Group
COMSTAC ACCESS

- STAR is at the core of the reports published by FAA AST
  - Annual Compendium of Commercial Space Transportation
  - Commercial Space Transportation Year in Review
  - Commercial Space Transportation Forecasts
- Trial STAR user accounts have been created for the Members of COMSTAC to provide them with access to this FAA AST online resource
- FAA AST welcomes feedback from the COMSTAC members on the STAR content and capabilities
- Our Tauri Group colleagues are at COMSTAC to provide introductory tutorial