Corporate Overview

• Founded in 2002 with the singular goal of providing highly reliable space transportation for satellites, cargo and crew
• Over 1,900 employees and growing
• Nearly 1 million sq. ft. of offices, manufacturing and production in Hawthorne, California
• 660 acre state-of-the-art Propulsion and Structural Test Facility in central Texas
• Launch sites at Cape Canaveral and Vandenberg
• Commercial launch site nearing selection
• More than 60% of upcoming missions for non-U.S. government customers
Space Transportation Systems

Falcon Family

Dragon Spacecraft
Mission Success: 2008 – Present

33 consecutive Merlin engines have flown successfully, similar flight history to the Atlas V main engines and more than the Delta IV.
Making Space Accessible

- Firm-fixed-price, performance-based contracts reduce government risk and ensure launches are delivered on-time and on-budget.
- Falcon 9 launch vehicle: developed from a blank sheet to first launch in four and half years for just over $300 million
- Dragon spacecraft: developed from a blank sheet to the first demonstration flight in just over four years for about $300 million
- NASA in 2011 conducted a predicted cost estimate of the Falcon 9 launch vehicle using the NASA-Air Force Cost Model (NAFCOM) and predicted the cost to develop the Falcon 9 if done by NASA would have been between $1.7 billion and $4.0 billion.
  - Actual company expenditures for all facilities, launch vehicles, and spacecraft: $1.2 billion from 2002-2012 – a fraction of previous systems
Since the U.S. government policy is to launch government satellites on rockets made in the U.S. (or in some cases assembled), the only true measure of American space launch competitiveness is commercial launch market share, which has drastically declined over the past 30 years.
All-American Manufacturing

- SpaceX rockets are built from the ground up at our high-tech Hawthorne, CA manufacturing facility

- In 2011: over 1,500 high-tech suppliers across the United States

- Highly vertically integrated – well over 80% of the value of the Falcon 9 launch vehicle and Dragon spacecraft is manufactured at SpaceX

- In-house production leads to control of quality, cost and schedule
Advanced Technology

• Created the Kestrel and Merlin engines for SpaceX launch vehicles, as well as the Draco and SuperDraco thrusters for spacecraft. We consistently upgrade to achieve more thrust and efficiency.

• SpaceX uses the latest technology where it is appropriate to improve reliability and lower costs.

• Developing the world’s most advanced Launch Abort System (LAS) to carry crew to safety in the event of an emergency.

• Moving towards full reusability – a critical step in bringing down the cost of launch.
Keys to Success

- **Design** – Increase reliability and decrease cost through simplicity, redundancy and robust design margins
- **Evolutionary Approach** – Leverage commonality between vehicles
- **Development and Operations** – Encouraging rapid prototyping in the development phase and stringent quality control in the production phase
- **Flat Management Structure** – Senior management deeply involved in technical aspects of development, production and operations. Decision authority at the lowest possible level
SpaceX Facilities

In 2011: over 1500 active suppliers, in 46 states.

6 SpaceX Facilities and Launch Sites

SpaceX Headquarters
Hawthorne, CA

SpaceX Launch Site
Vandenberg AFB

SpaceX Washington
Operations
Washington, D.C.

SpaceX Test Facilities
McGregor, TX

SpaceX Launch Site
Cape Canaveral, FL

SpaceX Offices
Chantilly, VA

1-99 Suppliers
100-499 Suppliers
500+ Suppliers

SpaceX Proprietary Information – Do Not Distribute.
SpaceX Rocket Development Facility

- Central – Texas: McGregor:
- All structural and propulsion testing including development, qualification and acceptance.
- Facilities:
  - Merlin test stand
  - Merlin-Vac test stand
  - Kestrel test stand
  - Draco and SuperDraco test stands
  - Horizontal test stand
  - F9 structural test stand
  - F9 multiengine test stand
  - F9 integration hangar
  - Dragon structural test stand
  - Blockhouse
  - Offices

The site has averaged more than one test per day since opening in 2003
SpaceX Cape Canaveral SLC-40 Facilities

- Located inside Cape Canaveral Air Force Station (CCAFS)
- Legacy Titan IV launch site
- South of space shuttle sites
- Between Delta IV and Atlas V sites
- New facilities include:
  - LOX storage and handling
  - RP-1 storage and handling
  - Support gases (LN2, He)
  - Horizontal integration hangar
- SpaceX launch control center located just outside CCAFS south gate
SpaceX Vandenberg SLC-4E Facilities

- Located on Vandenberg Air Force Base.
- Legacy Titan IV launch site
- Launch complex construction rapidly progressing towards a 2013 inaugural launch of the Falcon Heavy
SpaceX COTS 2 Mission
Looking Forward

- Robust launch manifest
  - 12 CRS missions to deliver cargo to the International Space Station
  - Readying Dragon for crew-carrying capability
  - More than 30 commercial missions through 2017
- Debut of Falcon Heavy for large commercial and government satellites
- Testing reusability concepts to substantially reduce launch prices