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SpaceX Launch Vehicle Program

Lee Rosen
VP of Customer & Integration, SpaceX

SpaceX Launch Vehicle Program

Lee Rosen, Vice President, Customer Ops & Integration

May 24, 2016

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SpaceX Overview

- Founded in 2002 to revolutionize space technology, with the ultimate goal of enabling people to live on other planets
- Approximately 5,000 employees and growing
- Over 1.5 million sq ft of offices, manufacturing and production in Hawthorne, Calif.
- Offices in Washington, D.C.; Chantilly, Va.; and Houston, Texas
- Launch sites at Cape Canaveral Air Force Station, Fla., Kennedy Space Center, Fla.; Vandenberg Air Force Base, Calif.; and Brownsville, Texas (2018)
- Test facilities in McGregor, Texas

SpaceX Vehicles

Falcon 9

Falcon Heavy

Dragon

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SpaceX Reusable Rocket Philosophy

"If one can figure out how to effectively reuse rockets just like airplanes, the cost of access to space will be reduced by as much as a factor of a hundred. A fully reusable vehicle has never been done before. That really is the fundamental breakthrough needed to revolutionize access to space."

--Elon Musk

Reusability Benefits

- Improved Reliability
- Greater Flexibility
- Lower Launch Costs

Reusable Booster Components

Merlin Engines

Independent engine gimbaling and throttling for vehicle control

Landing Legs

Four legs made of carbon fiber with an aluminum honeycomb structure

Reaction Control System

Cold-gas thrusters to provide for three-axis stability control

Grid Fins

Four fins in an “X-Wing” configuration to control vehicle roll, pitch, and yaw

Reusable Booster Development Program

2013 - Grasshopper

2014 - Falcon 9 Reusable Development Vehicle

2015 - Falcon 9 Droneship Landing Attempts

The Falcon has landed!

Dec 21, 2015
First Successful Land Landing

April 8, 2016
First Successful Droneship Landing

What's next?

2016 - First Falcon Heavy Launch

2017 - First Commercial Crew Mission

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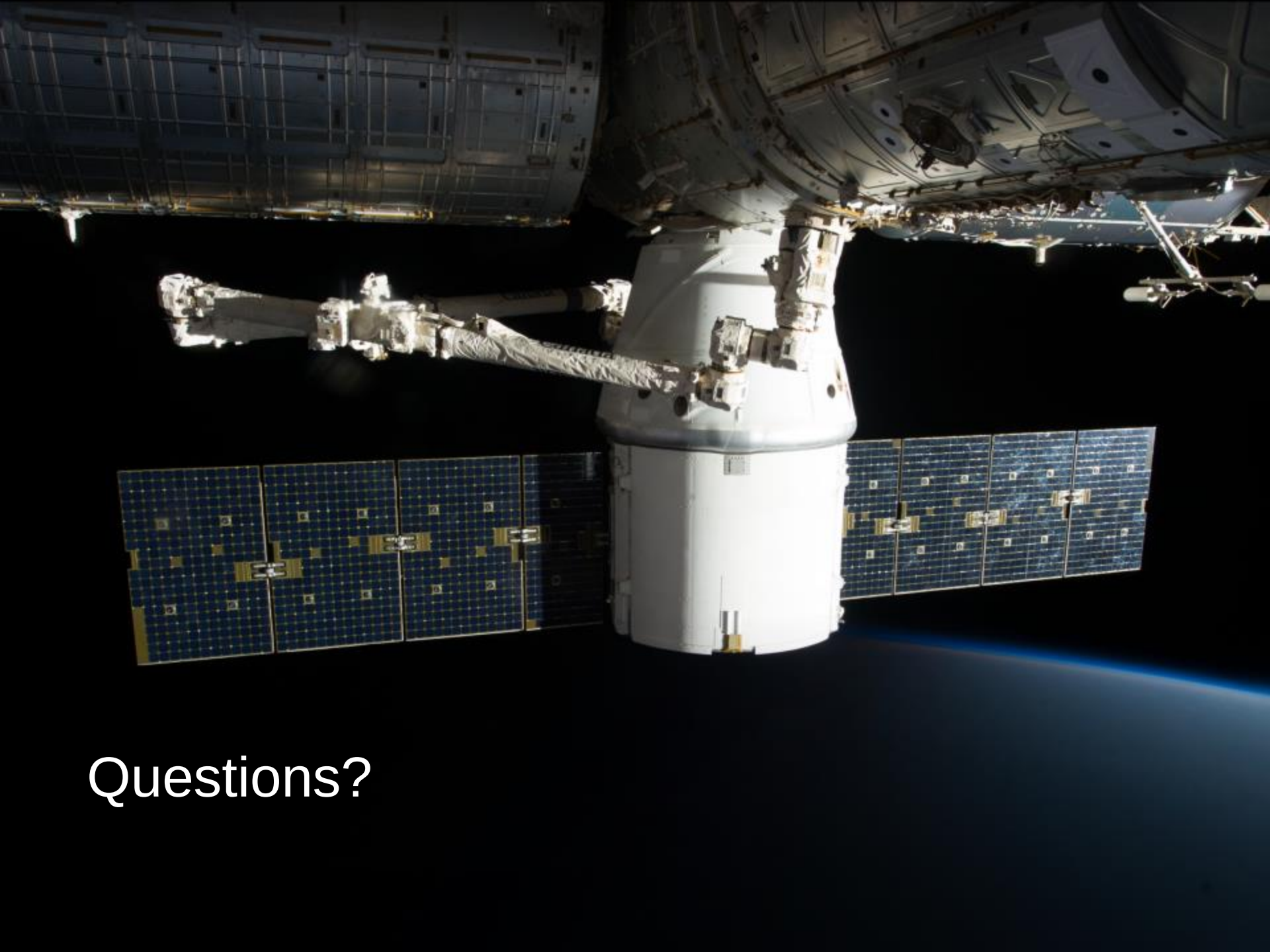

Questions?