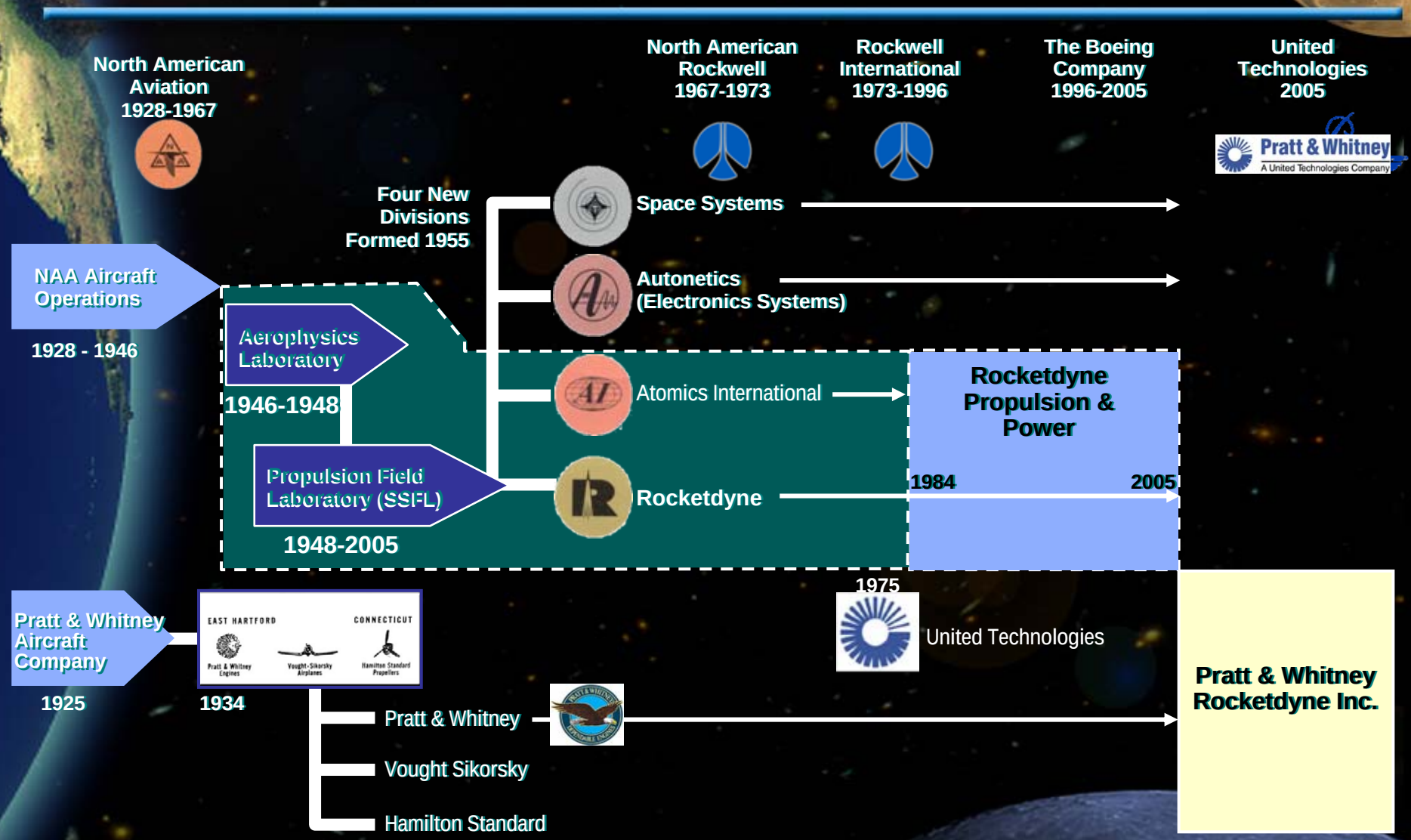
J-2X Engine

Steve Bouley
December 6, 2006

PWR Corporate History



Pratt & Whitney Rocketdyne
3,700 Total Employees

1,100 Employees
Canoga Facility (California)

Consolidation **2008**

1,250 Employees
De Soto Facility (California)

San Jose Facility (California)
Decommission 2007
35 Employees

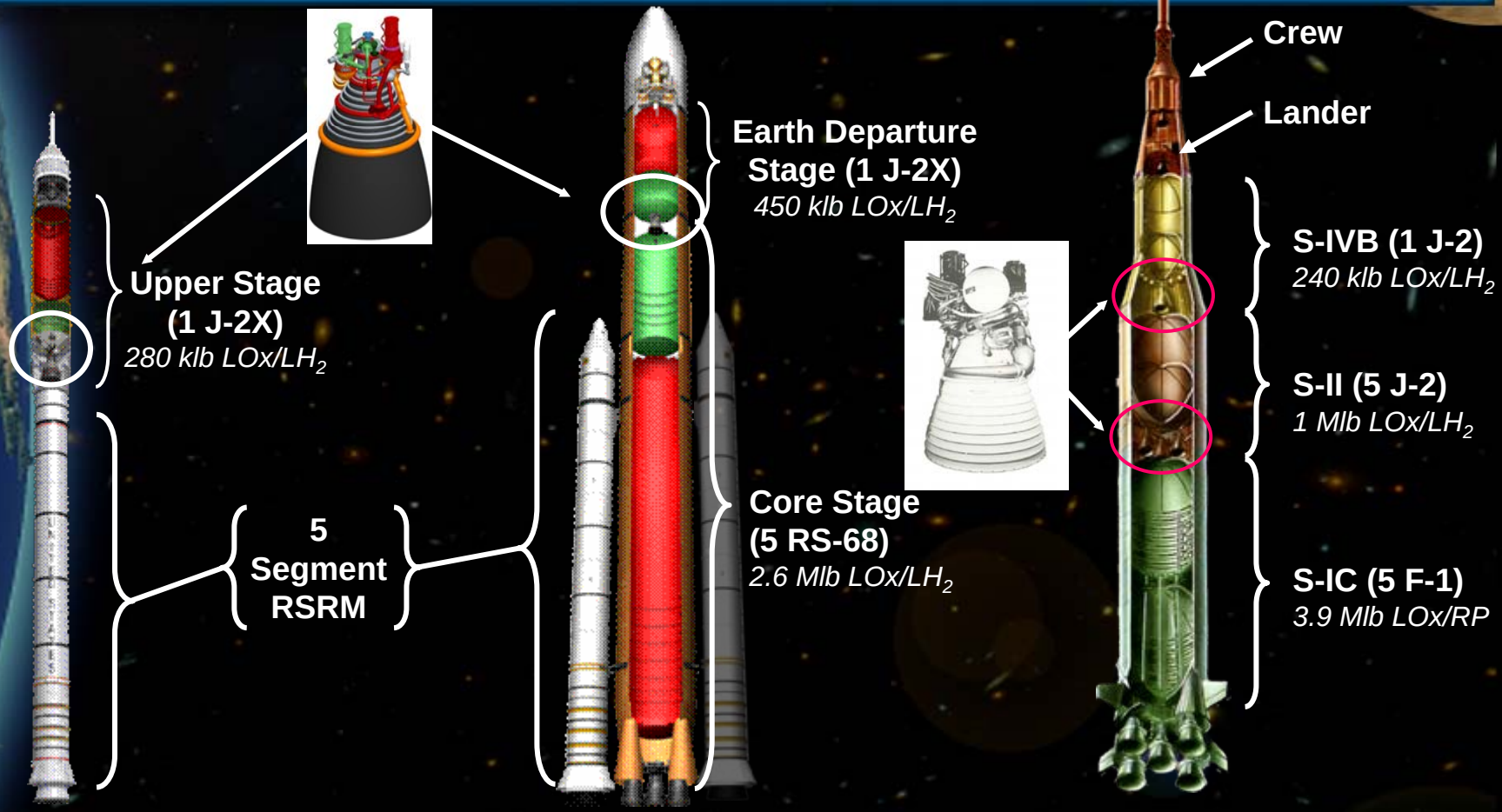
120 Employees
Kennedy Space Center (Florida)

80 Employees
Marshall Space Flight Center (Alabama)

235 Employees
Stennis Space Center (Mississippi)

880 Employees
West Palm Beach (Florida)

J-2X: Apollo-era Derivative Engine
CEV Upper Stage and CaLV EDS Engine



Height: *309 ft*
Gross Liftoff Mass: *2.0Mlb*

Crew Launch Vehicle

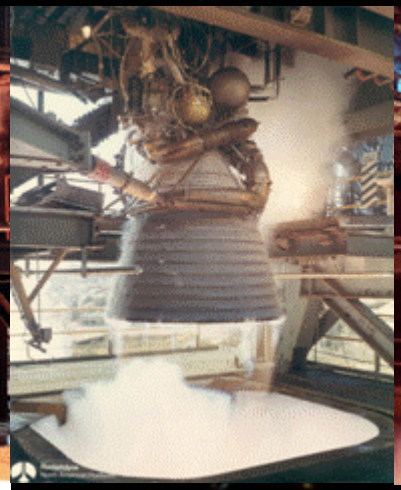
Height: *358 ft*
Gross Liftoff Mass: *6.4Mlb*

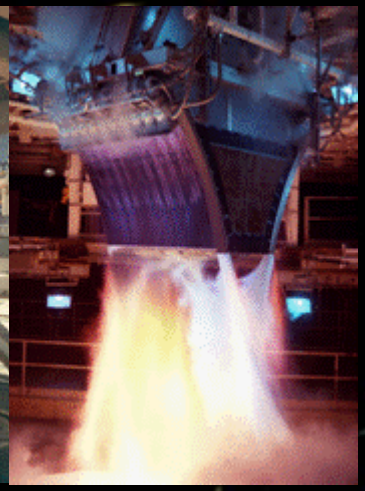
Cargo Launch Vehicle

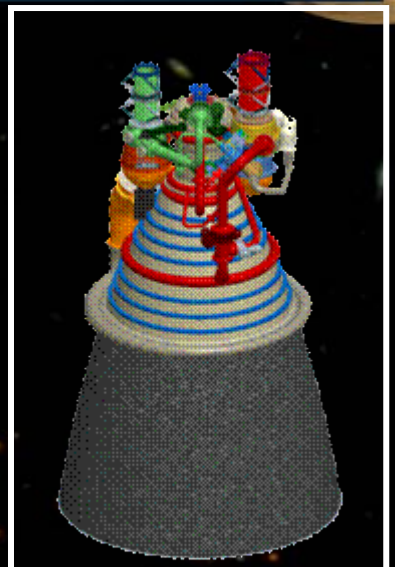
Height: *364 ft*
Gross Liftoff Mass: *6.5Mlb*

Saturn V

J-2 Engine Lineage
J-2X: Adding a new member to the family





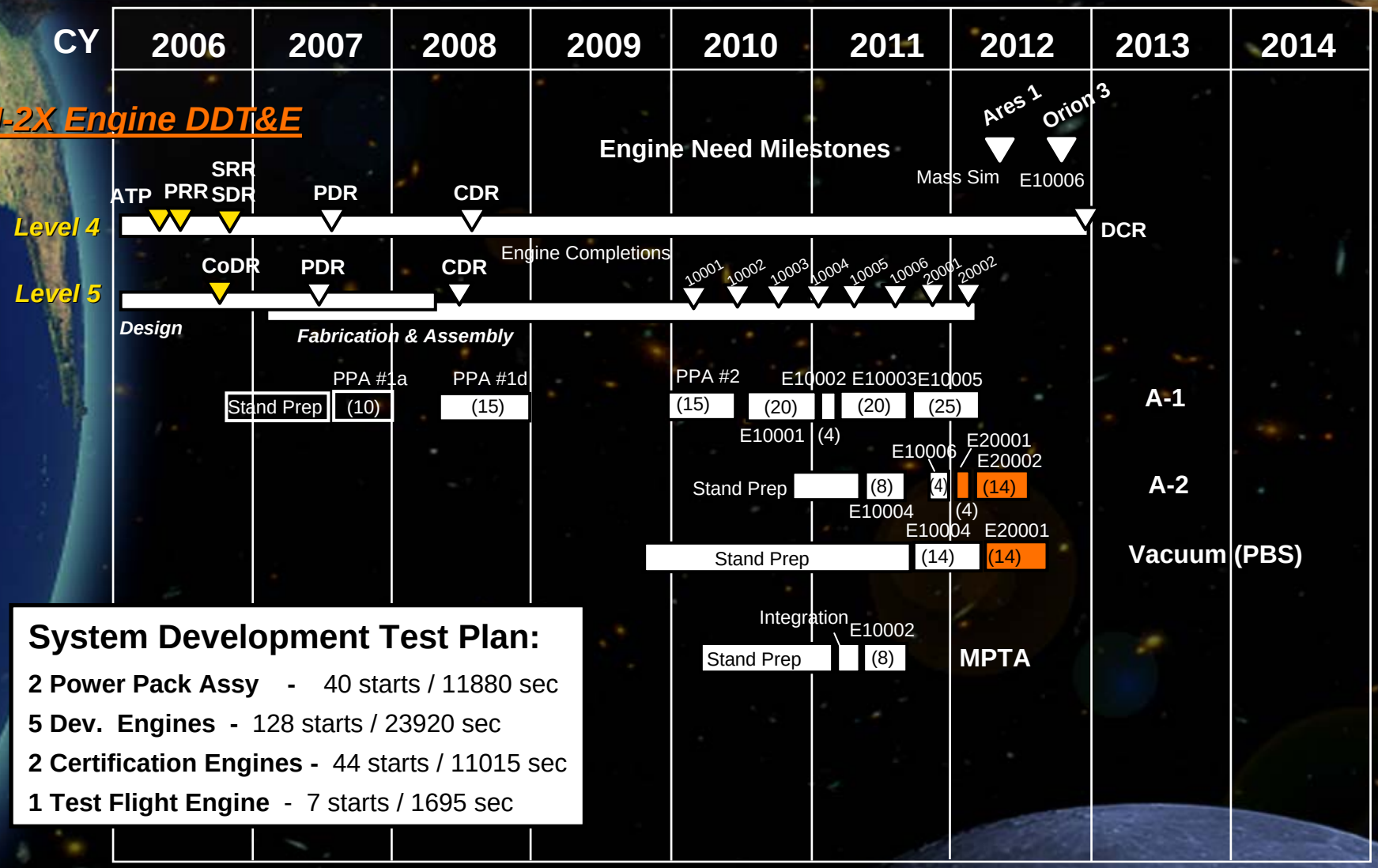


	1960-1970	*1965-1971*	*1996-2001*	*2006-*
Configuration	**J-2**	**J-2S**	**X-33**	**J-2X**
Thrust	**230 klb**	**265 klb**	**261 klb**	**294 klb**
Isp	**425 sec**	**436 sec**	**419 sec**	**448 sec**
Mass	**3,492 lb**	**3,800 lb**	**7,500 lb**	**5,360 lb**
Length	**116 in**	**116 in**	**79 in**	**185 in**

Requirements

J-2X & RS-68 Size Comparison

Development Plan Summary



System Development Test Plan:

2 Power Pack Assy - 40 starts / 11880 sec

5 Dev. Engines - 128 starts / 23920 sec

2 Certification Engines - 44 starts / 11015 sec

1 Test Flight Engine - 7 starts / 1695 sec

J-2 Legacy Expertise Support

Paul Coffman

George Baird

Bill Hagler

Rich Nelson

Don Eddy

Ron Urquidi

Joe Stangeland

John Halchak

Paul Seitz
(not pictured)

Recurring NAR team established

J-2X Powers the Vision for Space Exploration

- PWR on contract now and executing
- Working to definitize DDT&E contract in parallel
- Accelerated schedule - early testing / fab critical
- Rely on heritage & flight proven technology
- J-2X success critical to Exploration sustainability

Low risk propulsion for Exploration