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for Universal Opportunities

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Keynote

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Robert D. Cabana
Director, Kennedy Space Center



REACH
— NEW —
HEIGHTS

BENEFIT
— ALL —
HUMANKIND

REVEAL
— THE —
UNKNOWN



JOURNEY TO MARS



HUBBLE SPACE TELESCOPE

INTERNATIONAL SPACE STATION

SPACE LAUNCH SYSTEM

ORBITERS

LANDERS

TECHNOLOGY
EXPLORATION
SCIENCE

DEIMOS
PHOBOS

MARS TRANSIT HABITAT

COMMERCIAL CARGO AND CREW

ORION CREWED SPACECRAFT

DEEP SPACE HABITAT

SOLAR ELECTRIC PROPULSION

ASTEROID REDIRECT MISSION

MISSIONS: 6-12 MONTHS
RETURN: HOURS

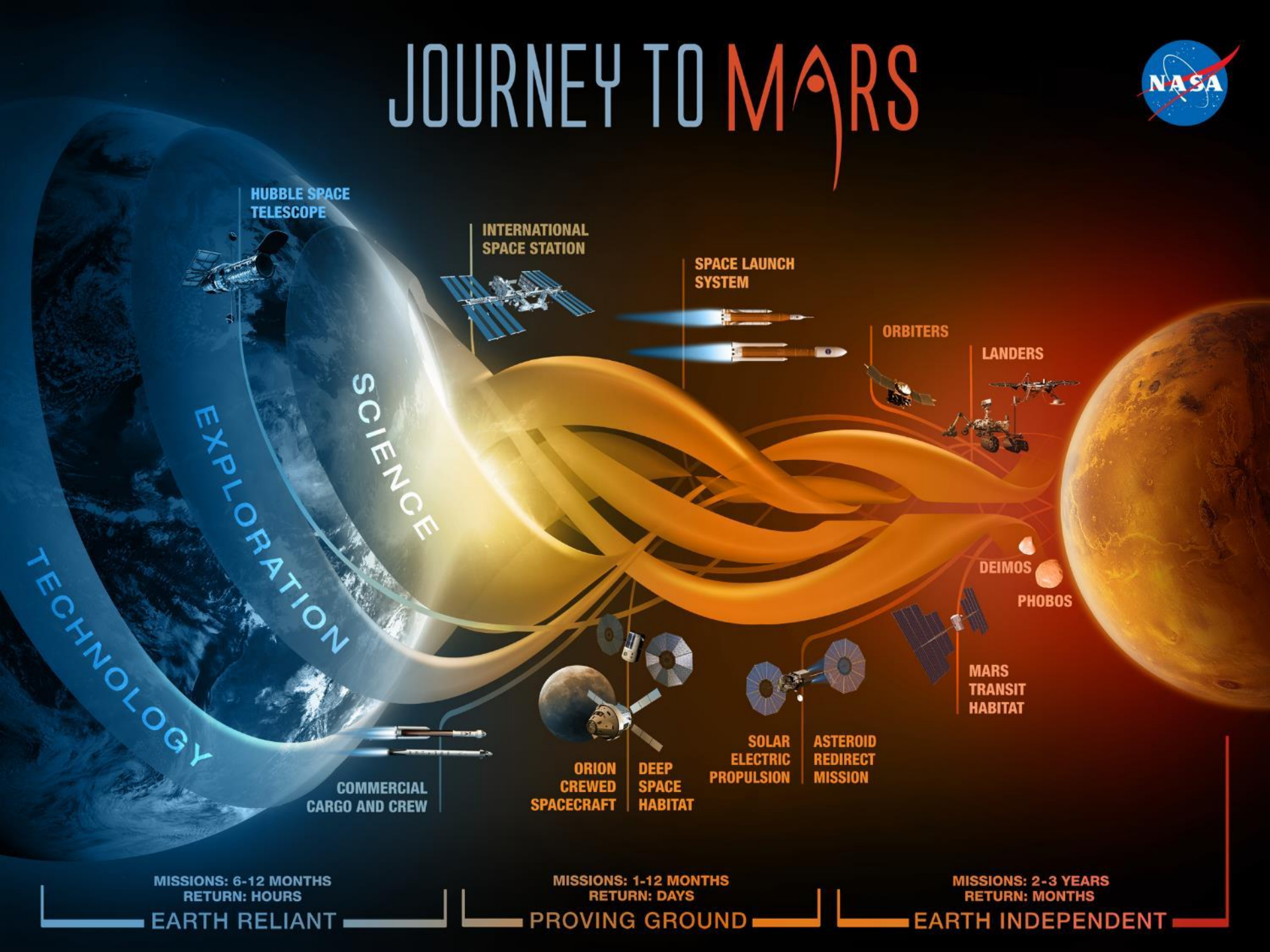
EARTH RELIANT

MISSIONS: 1-12 MONTHS
RETURN: DAYS

PROVING GROUND

MISSIONS: 2-3 YEARS
RETURN: MONTHS

EARTH INDEPENDENT



Ground Systems Development and Operations Program

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O&C High Bay



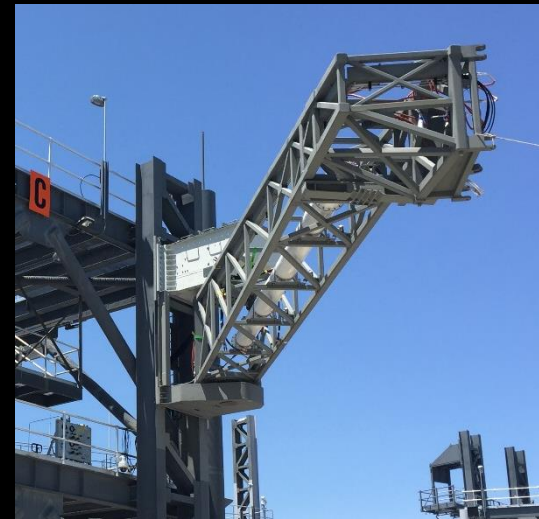
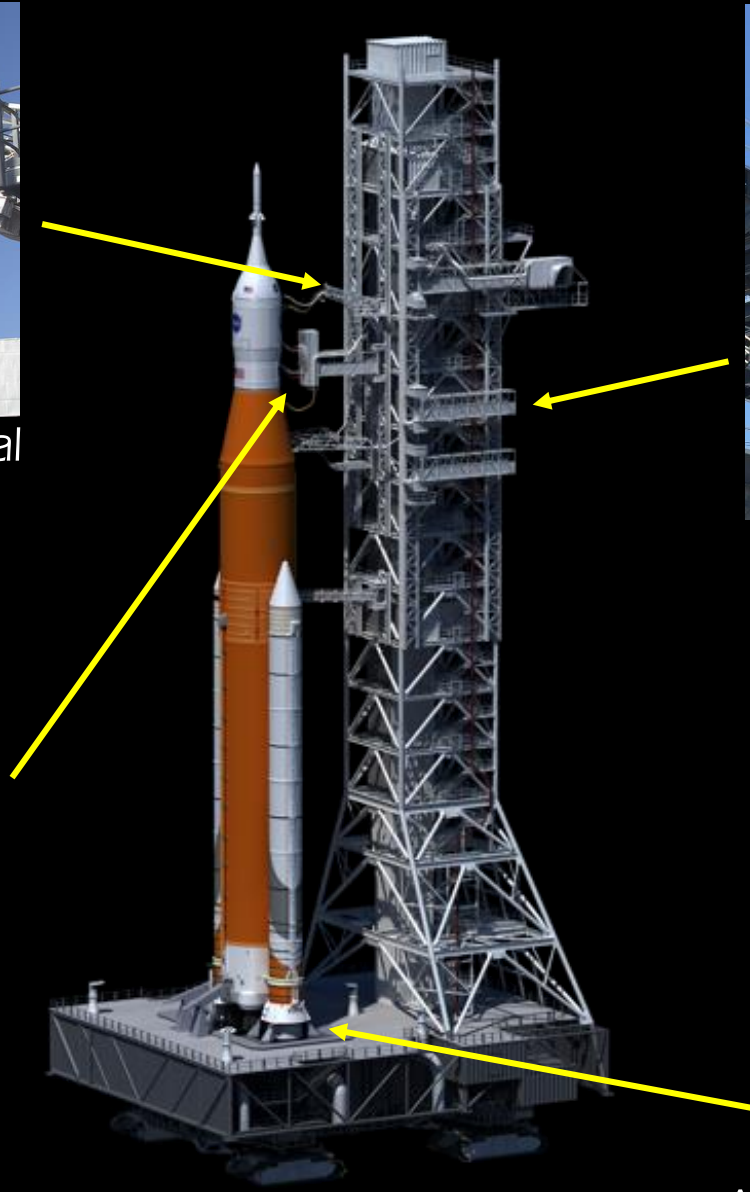
Mobile Launcher



Orion Service Module Umbilical



Interim Cryogenic Propulsion Stage Umbilical

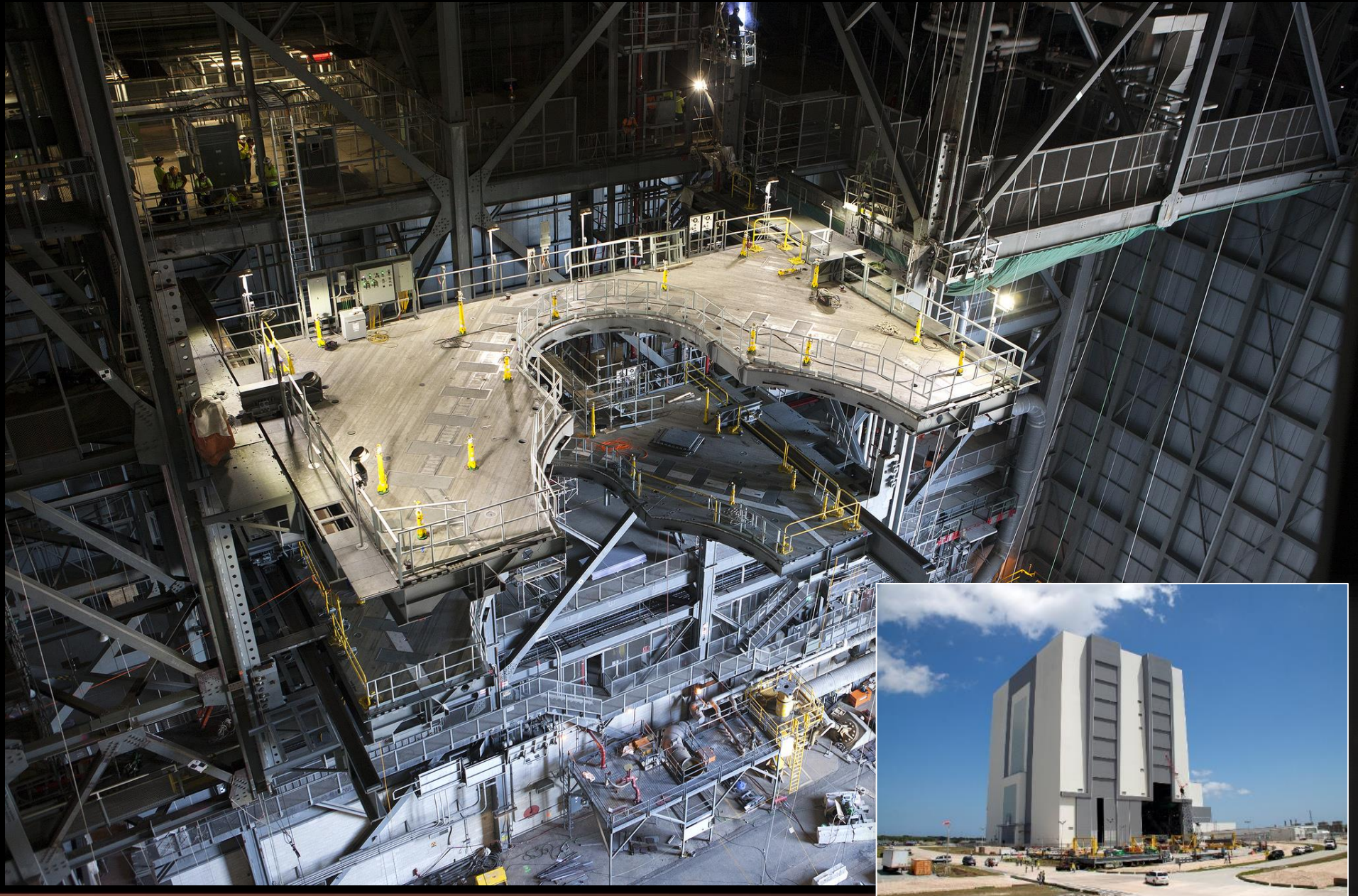


Core Stage Forward Skirt Umbilical



Aft Skirt Electrical Umbilical

Vehicle Assembly Building



Launch Pad 39B



Building to Exploration Mission-1



Now until launch: 2016–2018

2/2016 Crew Module Pressure Vessel on Dock at Kennedy Space Center



1/2017 European Service Module Delivery to Kennedy Space Center

1/2017 Crew Module Initial Power On at Kennedy Space Center

3/2017 Vehicle Assembly Building High Bay 3 Construction Complete

3/2017 Launch Pad Flame trench Construction Complete

5/2017 Mobile Launcher Ground Support Equipment Install Complete

7/2017 Crew Module and Service Module Mate at Kennedy Space Center

1/2018 Booster Stacking in Vehicle Assembly Building

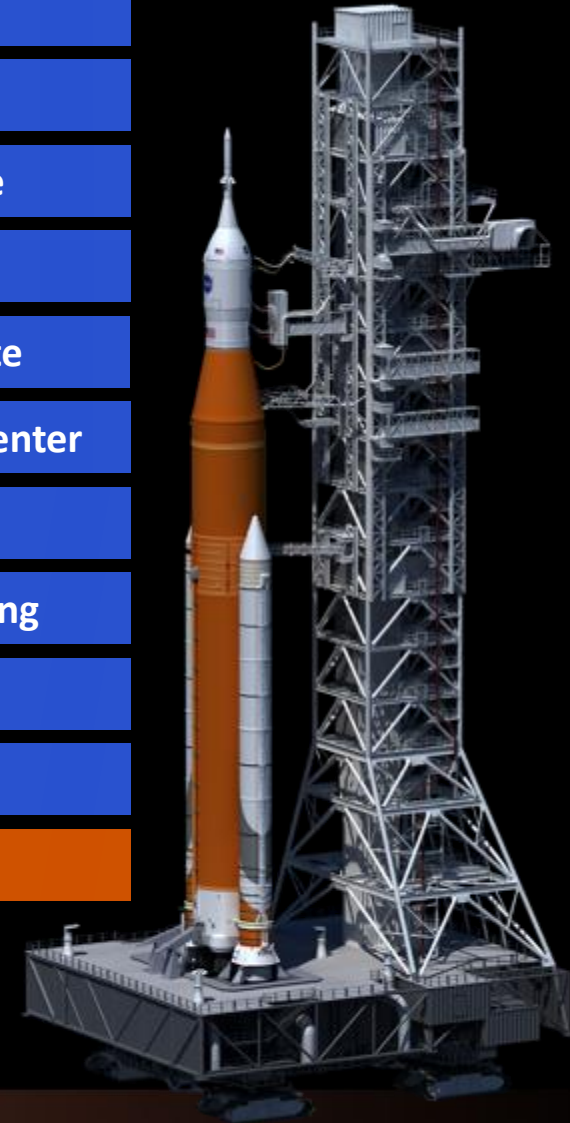
4/2018 Core Stage stacking with Boosters in Vehicle Assembly Building

6/2018 Orion mating with SLS in Vehicle Assembly Building

8/2018 Wet Dress Rehearsal at Launch Pad

11/2018 EM-1 LAUNCH

ESD PROGRAM MILESTONES



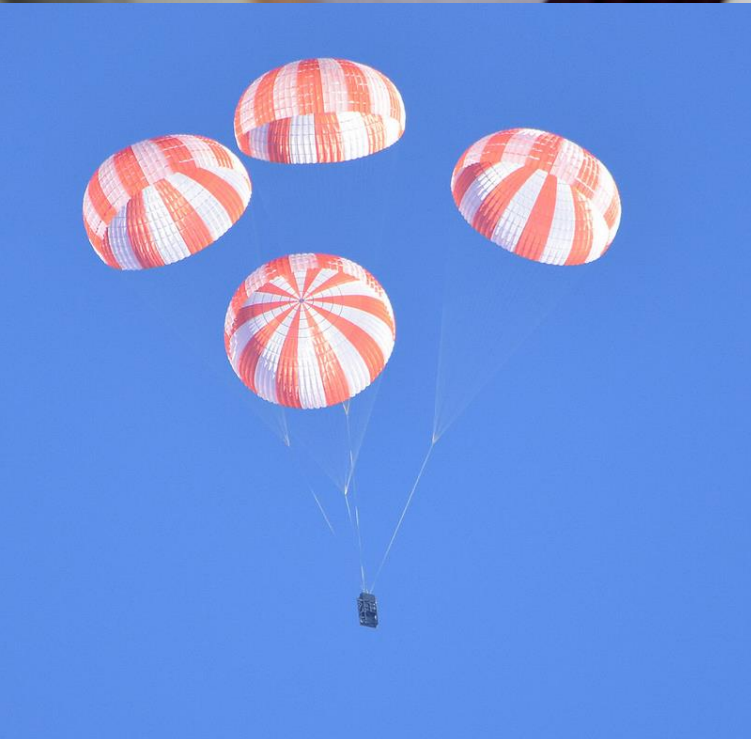
Commercial Crew Program



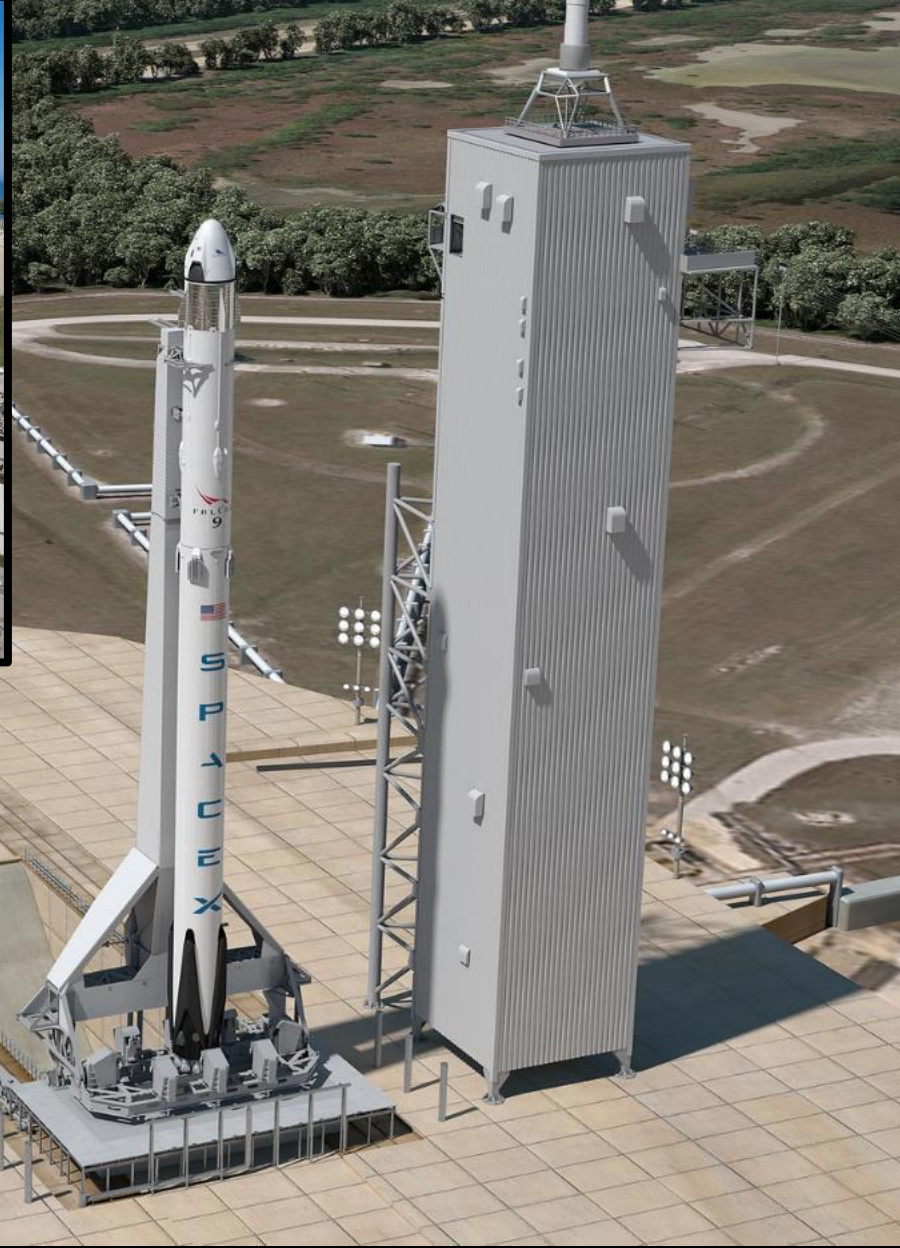
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SpaceX Crew Dragon



Launch Pad 39A



Boeing CST-100 Starliner



Launch Complex 41



Launch Services Program

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Launch Services Program Manifest Outlook



2016



OSIRIS-Rex - Origins
Spectral Interpretation
Resource Identification
Security Regolith
Explorer



GOES-R – Geostationary
Operational
Environmental Satellite



CYGNSS- Cyclone
Global Navigation
Satellite System

2017



JPSS-1 – Joint
Polar Satellite
System
(Vandenberg)



ICON –
Ionospheric
Connection
Explorer
(Kwajalein)



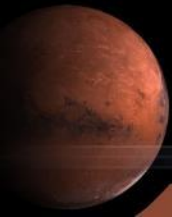
TESS –
Transiting
Exoplanet
Survey
Satellite



TDRS-M –
Tracking
and Data
Relay
Satellite



ICESat-2 –
Ice, Cloud
and Land
Elevation
Satellite-2
(Vandenberg)



Multi-User Spaceport Partnerships



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Exploration Park



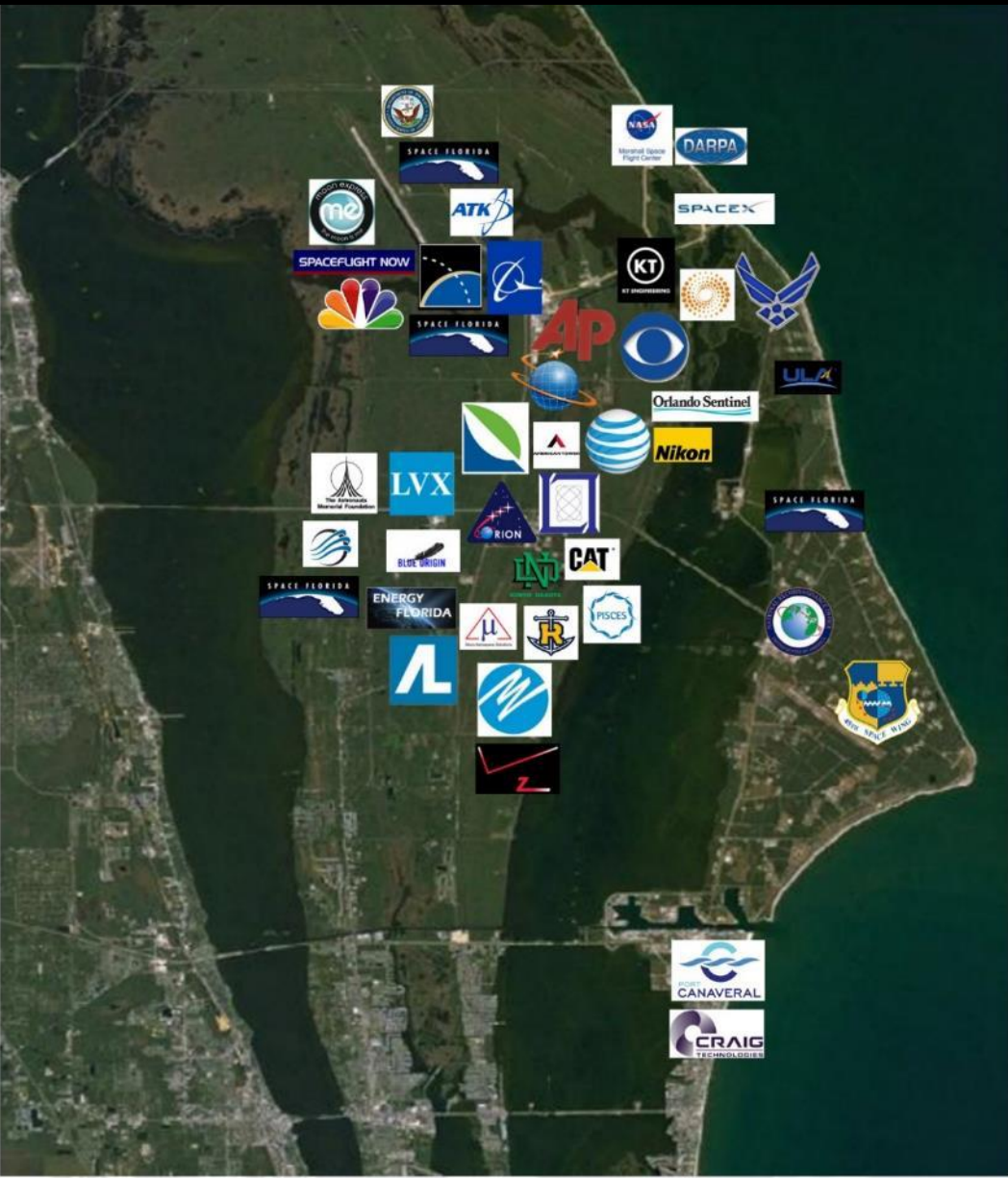
SPACE FLORIDA



Orbital ATK



KSC Partnerships Overview



- | | |
|----------------------|-----------------------|
| 45th Space Wing | LVX Systems |
| Air Liquide | MSFC |
| Air Force | MAS |
| American Tower | MIT Lincoln Lab |
| AMF | Moon Express |
| Associated Press | Navy |
| AT&T | NBC |
| Blue Origin | Nikon |
| Boeing | NRO |
| Brevard EDC | Orbital ATK |
| Canaveral Port Auth. | Orlando Sentinel |
| Caterpillar | PISCES |
| CBS | Reuters |
| Craig Technologies | Rollins College |
| DARPA | Sierra Nevada |
| Energy Florida | Space Florida |
| Florida City Gas | Spaceflight Now |
| Florida Today | SpaceX |
| FPL | ULA |
| JSC (Orion) | Univ. of North Dakota |
| KT Engineering | Verizon |

