CST-100 Starliner Spacecraft
- Flight-proven systems with high-technology readiness level
- Firm configuration established
- Moving from design to production on multiple spacecraft

United Launch Alliance Atlas V Rocket
- 65 successes and counting!
- Proven rocket significantly reduces system risk
- Human-rating of Space Launch Complex 41 at Cape Canaveral Air Force Station in progress

Mission Operations
- Integrated with the world’s experts on mission control: NASA Flight Operations Directorate
- Crew engagement through plan, train and fly phases

Ground Processing Operations
- Commercial Crew and Cargo Processing Facility modernized at NASA’s Kennedy Space Center
- Lean production based on Boeing’s commercial approach
- Integration testing and quality processes based on space shuttle and International Space Station approaches
**Starliner Spacecraft**

- **Ascent Cover**
- **Forward Window**
- **Vacuum Vent**
- **Perforated Ring**
- **Radiators**
- **Thruster Doghouses**
- **Forward Heat shield**
- **Side Hatch**
- **LAS Pitch/Yaw Thrusters**
- **LAS Escape Thrusters**
- **CM/SM Umbilical**
- **Launch Abort System (LAS) Roll Thrusters**
- **MMOD Shields**
- **Solar Panels**
- **Vent**
- **Forward Window**
- **Ascent Cover**
- **Thrust Doghouses**
- **Radiators**
- **Perforated Ring**
- **Umbilical**
- **Side Hatch**

**SEATING FOR SEVEN**
(5 CREW + 2 CREW EQUIVALENT OF CARGO SHOWN)

**CLAM SHELL DESIGN**
ALLOWS FOR EASY HARDWARE INSTALLATION

**FLEXIBLE CABIN DESIGN**
ACCOMMODATES MIX OF CREW AND CARGO

- **Cargo & Crew Provisions**
- **GLACIER**
Atlas V Launch Vehicle

Legend:
- **Black** = Heritage
- **Blue** = New Systems

- **LAS Escape Thrusters**
- **Launch Vehicle Adapter & 70" skirt**
- **Centaur Forward Adapter**
- **Common Centaur**
- **Centaur Aft Stub Adapter**
- **400 Series Interstage Adapter**
- **Aft Transition Structure**
- **Heat Shield**
- **CST-100 Starliner**
- **Emergency Detection System and Software**
- **Dual Engine Centaur Two RL-10A-4-2**
- **Atlas Booster**
- **Solid Rocket Boosters (2)**
- **RD-180 Engine**

- **Environmental Seal**
- **Lightning Protection System**
- **Crew Access Tower**
- **Crew Access Arm and White Room**
- **Emergency Egress System**
We place great deal of emphasis on testing and building the Starliner systems safely and at the right time in development.

- Component and subsystem qualification testing
- Human-in-the-loop testing
- Wind tunnel testing
- Hardware and software integration
- Spacecraft acceptance and qualification testing
- Structural loads, thermal and pressure testing
- Propulsion system testing
- Integrated spacecraft in build for three flight tests
Structural Test Article
- Structures loading for critical load conditions
- Modal survey
- Ordnance-actuated device shock levels
- Separation system performance

Service Module Hot Fire Test Vehicle
- Integrated propulsion system performance and system dynamics

Spacecraft 1
- Ground Verification Testing
- Pad abort test

Spacecraft 2
- Electromagnetic compatibility, thermal vacuum, acoustic environment
- Demonstrate complete orbital mission to International Space Station
- Processed for Post Certification Mission-1

Spacecraft 3
- Demonstrate complete orbital mission to International Space Station with crew on board
- Processed for Post Certification Mission-2
2018 FLIGHT SCHEDULE

- Starliner Pad Abort Test (un-crewed)
- Starliner Orbital Flight Test (un-crewed)
- Starliner Crew Flight Test (crewed)
- Starliner Post-Certification Mission 1
We are making strong progress on a program that offers great potential for NASA and commercial customers alike . . .

- Aggressively working through complex technical challenges unique to human spaceflight development
- Momentum building as we transition from design to production and integrated testing
- Launch site modifications nearing completion
- Astronauts and flight directors are actively engaged in training systems development, with training hardware in place
- We continue to work toward achieving certification and providing safe crew transportation services to and from the International Space Station, which is our first and most important priority