James Webb Space Telescope Program Status
James Webb Space Telescope Passes a Mission Milestone
Jan 23, 2014

The final major element of the Observatory to pass into the manufacturing stage, the spacecraft, passed its last review hurdle in January.
Reflecting on Webb’s Progress
Feb 2, 2014

NASA Administrator Charles Bolden and Senator Mikulski stopped by the GSFC to thank and congratulate the JWST team on their progress over the previous year.

James Webb Space Telescope Passes a Mission Milestone
Jun 23, 2014

A critical element of the Observatory to pass into the spacecraft, passed its last
Engineers Install Near Infrared Camera into the Heart of Webb Telescope
Mar 27, 2014

Webb’s primary science camera and wavefront sensor, the NIRCam, was installed for the first time into the ISIM.

James Webb Space Telescope’s Near Infrared Spectrograph Installed
Apr 1, 2014

Webb’s main instrument for spectroscopy, ESA’s NIRSpec was installed into ISIM for the first time.
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Dr. Neil deGrasse Tyson Visits NASA Goddard
Jun 2, 2014
Ship of the Imagination docks in Greenbelt, MD

Webb's Fully Integrated
Jun 15, 2014
The iSIM began its second cryovacuum test in June. This time all four science instruments took part in the test.

Testing Completed on NASA's James Webb Space Telescope Backplane
Jul 7, 2014
The mission schedule has been driven for many years by the pace of manufacturing the mirror and its backplane. We passed a major milestone when the backplane was successfully delivered and tested.
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The full scale engineering model sunshield is deployed for the first time. NASA learns important lessons for the flight deployment testing and implications for overall thermal performance.
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James Webb Space Telescope "Pathfinder" Backplane in the Classroom
Aug 12, 2014

This flight-like engineering unit of the telescope backplane center section arrived at GSFC for the team to begin practicing mirror segment installation.
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NASA Webb’s Heart Survives Deep Freeze Test
Oct 20, 2014
ISIM completes its 116 day test with flying colors!

NASA’s Webb Telescope
Oct 30, 2014
The Pathfinder telescope is used by the Webb team to practice and learn assembly and testing steps for the full flight mirror system.

NASA’s Webb Telescope Mirror Tripod in Action
Nov 24, 2014
The Pathfinder secondary mirror support structure is deployed via motors in the GSFC cleanroom.

NASA’s Webb Telescope ISIM Gets Cubed for Gravity Test
Dec 1, 2014
To mimic the zero-g environment the ISIM will see in space it is rotated and carefully measured in different orientations.
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NASA's Webb Telescope GSIM GigaSpace Simulation  

To learn more about the ISIM's role in the Webb mission, visit the NASA website.
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Amazing View of Engineers Preparing NASA's Gigantic Space Simulator Chamber for Massive Test
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Tons of ground support equipment have been installed into the enormous thermal vacuum chamber at the Johnson Space Center to permit testing Webb's telescope and science instruments.
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ISO Chamber Prepared for Testing Web Telescope

A view of the ISO Chamber on the JSC Chamber A indicate that the Pathfinder Telescope is
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Yearly Themes

2013: Instrument Integration: The Science instruments will be finished and begin their testing as an integrated science payload

2014: Manufacturing the Spacecraft: Construction will commence on the spacecraft that will carry the science instruments and the telescope

2015: Assembling the Mirror: The mirror segments, secondary mirror and aft optics will all be assembled into the telescope

2016: Observatory Assembly: The three main components of the observatory will be completed (instruments, telescope, spacecraft)

2017: Observatory Testing: The three main components of the observatory will be tested and readied for assembly (instruments, telescope, spacecraft) into a single unit

2018: Kourou Countdown: All parts of the observatory will be brought together, tested and readied for launch in Kourou, French Guiana
Program schedule

- Spacecraft Fabrication & Assembly
- Flight Sunshield Fabrication
- Panel Integration
- Cryocooler Assembly & Test
- Detector Changeout & ISIM Cryovacuum Test #3
- OTIS (Optical Telescope + ISIM)
- Backplane Assembly
- Optics Integration
- Observatory I&T

Months of project funded critical path (mission pacing) schedule reserve

OTIS = Optical Telescope + ISIM
Schedule Reserve

1. Government Shutdown
2. Accommodate installation of thermal sensors for OTIS testing
3. Aft Unitized Pallet Structure remanufacture delay
4. Cryocooler Compressor Assembly manufacturing delays

- Current Reserve
- Plan
- GSFC Required Reserve

Year

Months of Funded Schedule Reserve


Launch
ISIM in 2015

- **March**: Swap out remaining NIR detectors
- **April**: Vibration Test
- **April**: Acoustics Test
- **May**: Electromag. Tests

August:
- Cryo-Vac Test #3
- Measures post-vibration ISIM performance

- **MIRI**
- **FGS**
- **NIRCam**
- **NIRSpec**

**Ambient Temperature Metrology**
Telescope in 2015

Flight Backplane arrives at GSFC, mirror installation begins

Pathfinder testing at JSC Chamber A
Sunshield in 2015

- Flight Layers #3, #4, #5 will be completed, start manufacturing layers #2 and #1
- Start manufacturing mid-booms
- Acceptance testing for NEA devices
Spacecraft in 2015

• Dozens of subsystems delivering in 2015
  • e.g., Star Trackers, Reaction wheels, Fine Sun Sensors, Communications subsystems, Deployment Electronics Unit, Command Telemetry Processors, wire harnesses

• Deliver MIRI cryocooler

Completed Equipment Panel

Spacecraft Bus
Summary

• Technical progress was significant in 2014
  • Instruments performing as expected during cryo testing,
  • Mission technical performance metrics being met with margin,
  • Spacecraft and sunshield manufacturing in full swing,
  • In 2015 we will start to assemble the flight telescope

• Project is performing within the replan budget and on schedule for the October 2018 launch

www.jwst.nasa.gov
www.stsci.edu/jwst