NASA Administrator Bolden, Senator Mikulski view progress on James Webb Space Telescope

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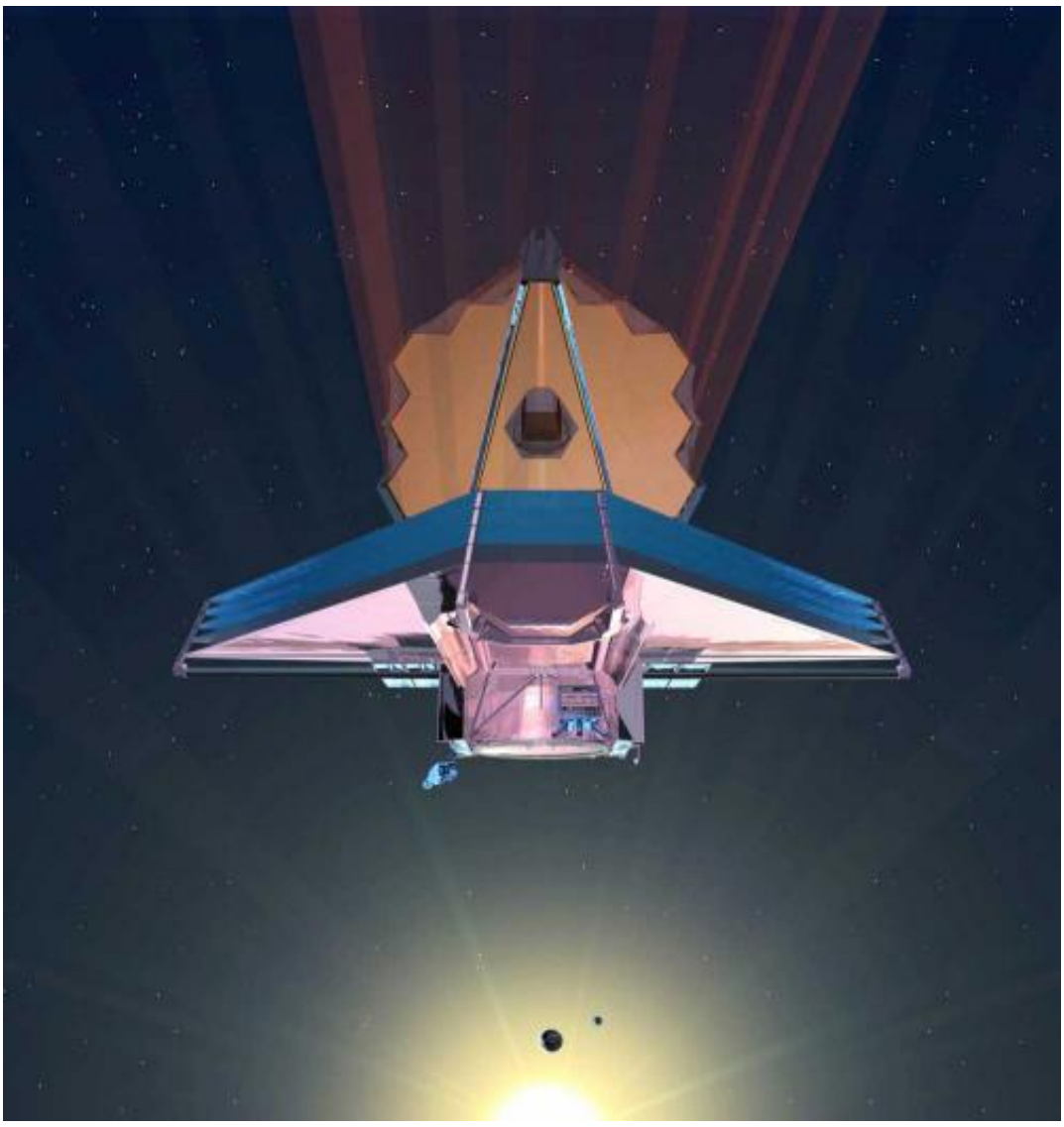

Artist's concept of the James Webb Space Telescope in orbit. Credit: NASA

NASA Administrator Charles Bolden and Senator Barbara Mikulski of Maryland congratulated the James Webb Space Telescope team Monday for the delivery of all flight instruments and primary mirrors to NASA's Goddard Space Flight Center in Greenbelt, Md.

Their comments came in a morning news conference at Goddard, where NASA's flagship science project will be assembled in preparation for launch in 2018.

"The Hubble Space Telescope has already rewritten the science books. Going from Hubble to the James Webb Space Telescope is like going from a biplane to the jet engine," said Mikulski, Chairwoman of the Senate Appropriations Committee that funds NASA. "As Chairwoman, I've continued to fight for funds in the federal checkbook to keep the James Webb Space Telescope mission on track, supporting jobs today and jobs tomorrow at Goddard. NASA Goddard is home to leaders in Maryland's space and innovation economies, making discoveries that not only win Nobel Prizes, but create new products and jobs. The James Webb Space Telescope will keep us in the lead for astronomy for decades to come, spurring the innovation and technology that keep America's economy rolling."

NASA's James Webb Space Telescope will be the most powerful space telescope ever built, capable of observing the most distant objects in the universe, providing images of the first galaxies formed, and observing unexplored planets around distant stars. A joint project of NASA, the European Space Agency (ESA) and the Canadian Space Agency (CSA), Webb is the successor to the agency's Hubble Space Telescope.

All 18 of Webb's primary mirror segments are now housed in the Goddard clean room. Its 1.3 million cubic feet of dust-free space make

the clean room one of the world's largest. All four of Webb's science instruments are within feet of the mirrors. The telescope's mirror and instruments will capture images of the universe and break down the spectra of incoming light to analyze the properties of galaxies, stars, and the atmospheres of planets beyond our solar system.

"The recent completion of the critical design review for Webb, and the delivery of all its instruments to Goddard, mark significant progress for this mission," said Bolden. "The design, build, delivery and testing of these components took meticulous planning and action here at Goddard and with teams across the country, as well as with our international partners. It's very exciting to see it all coming together on schedule. And I want to thank our good friend Senator Barbara Mikulski for her support. We wouldn't be here today without her championing of this critical capability for NASA. I know she understands just how important it is to continue to push the boundaries of what we can do in space."

"This past year has been one of significant progress for the Webb telescope," said Goddard Director Chris Scolese during the news conference. "The NASA Goddard team is working tirelessly with our partners to keep the program on track as we develop this newest scientific tool to explore the universe."

The news conference featured a video presentation hosted by Webb's deputy project manager and technical engineer, Paul Geithner, from inside the clean room. He explained how the 18 mirror segments will be coupled to form the massive space telescope's 21-foot-wide main mirror. This work, and the assembly of the rest of the telescope, will begin once the telescope structure arrives at Goddard.

"Each of these instruments has a unique function to collect data about the universe," Geithner said, pointing to four science instruments that will be located inside the heart of the telescope.

One of these instruments, the University of Arizona's Near-Infrared Camera, will be Webb's primary camera and will take images of the first stars and galaxies to form in the universe, along with many other astronomical targets.

A second instrument, ESA's Near-Infrared Spectrograph (NIRSpec), will analyze the spectra and composition of as many as 100 objects at once. Airbus Defence and Space, formerly known as EADS/Astrium, built NIRSpec with components provided by Goddard.

A third instrument, ESA's Mid-Infrared Instrument, has both a camera and a spectrograph, which sees light in the mid-infrared region of the electromagnetic spectrum—wavelengths longer than the human eye can see. This instrument was developed in collaboration with NASA's Jet Propulsion Laboratory in Pasadena, Calif.

A fourth instrument, CSA's Fine Guidance Sensor and Near-infrared Imager and Slitless Spectrograph, will allow Webb to point precisely at its target in order to obtain high-quality images, and also will provide other valuable science modes for investigating both the distant universe and nearby exoplanets.

Northrop Grumman Aerospace Systems is building Webb's sunshield. Once in space, the sunshield will act as an umbrella to keep heat radiating from the sun and Earth from reaching scientific instruments that must stay cold to function properly. The Webb telescope will be fully assembled by 2016 and then moved to a clean room at NASA's Johnson Space Center for additional testing.

Provided by NASA

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