Prepared Remarks for State of NASA
Stennis Space Center, Mississippi

Administrator Jim Bridenstine — February 10, 2020

Who loves NASA Stennis? Who loves NASA? Who loves America?

It is great to be here at the Stennis Space Center, America's premier propulsion testing center. I cannot think of a better place to rollout NASA's 2021 budget request than right here where we are ushering in a civilization-changing era of spaceflight.

I want to especially recognize Representative Palazzo who was with us earlier today. I'd also like recognize with us here today, staff from the offices of Senator Wicker, Senator Hyde-Smith, and Senator Cassidy. And the great Mayor of Slidell, Mayor Cromer.

And, will you please join me in thanking Rick Gilbrech and his Stennis team for making this event possible.

I'd also like to thank Eileen Drake and everyone at Aerojet Rocketdyne for allowing us to use their building, and for creating these beautiful displays. Including the RL-10 Engine in front of me and the RS-25 Engines behind me.

History is being made here, as well as all across our storied agency. Our nearly 18,000 person strong workforce is developing cutting-edge technology and expanding our scientific knowledge with ever greater discoveries.

From the newest members of our team to the most senior, your unrelenting determination and teamwork are what has made NASA ranked the best place to work in the federal government for the eighth consecutive year. Thank you!

The late-night, dogged persistence of NASA employees is the mold in which history is poured. In no metaphoric terms, we are in truth leading the world into a new, dynamic era of spaceflight.

The nation is proudly behind us in this endeavor, and I am happy to announce that President Donald Trump's Fiscal Year 2021 Budget Request invests in NASA more than $25 Billion dollars.

That's a 12% increase that includes over $3.3 billion dollars for a Human Landing System.

This is a 21st century budget worthy of 21st century space exploration, and one of the strongest budgets in NASA's history.

Last week during his State of the Union address, President Trump challenged our nation to venture farther into space than ever before. [Quote] "We must remember that America has always been a frontier nation," and then he asked the Congress to [quote] "fully fund the Artemis program to ensure that the next man and the first woman on the moon will be American astronauts," and that by so doing

we can [quote] “use this as a launching pad to ensure that America is the first nation to plant its flag on Mars.”

If President Trump’s firm support for NASA wasn’t clear to you before, it should be obvious now. The Administration and a bipartisan coalition in the Congress are committed to utilizing the great talents of NASA.

Their support for what we are doing is not empty rhetoric. They are backing up our vision of a renewed era of discovery by giving NASA ever increasing budgets every year. And now we must, and we will deliver!

It was only 10 months ago that Vice President Mike Pence announced the President’s policy to accelerate the Artemis Program’s timeline and land the first woman and the next man on the Moon by 2024.

He instructed all of us to adopt a spirit of relentless determination and a renewed sense of focus. No one embodies this more than astronaut Christina Koch, who just last week finished her nearly yearlong mission aboard the International Space Station.

During her rookie mission she broke records for the longest single spaceflight by a woman and ventured outside the station on six different spacewalks, including the first three all-woman Extra Vehicular Activities in history.

Like Christina, the Artemis Program’s bold vision must be matched by our unflinching devotion to do what is necessary to advance the nation farther and faster than ever before.

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Nowhere has this been more apparent than in the progress made on the Space Launch System rocket and the Orion crew capsule. The 2021 Budget, and this is important to you Stennis and Marshall and Michoud and Kennedy and Johnson and Glenn. The 2021 budget fully funds SLS and Orion.

Who loves Orion?

Orion is the first human spacecraft we’ve built for deep-space missions in over a generation. Last year, engineers fully assembled the Orion spacecraft in preparation for the Artemis 1 mission, and are now half way through the final testing at Plum Brook in Ohio.

After final testing is complete, the Orion will be returned to the Kennedy Space Center to be stacked atop the Space Launch System rocket in preparation for the Artemis 1 mission.

Now, who loves SLS?

The Space Launch System rocket is the foundation for our 21st century space exploration missions to the Moon and Mars. Its unprecedented power and capabilities will send American astronauts farther than ever before.

Just a few months ago, engineers completed assembling the core stage and integrating the four RS-25 engines. And right here at the Stennis Space Center, we will conduct Green Run tests on the first SLS.

This 212-foot tall core stage is the largest rocket stage ever built by the agency and a monumental engineering feat in its own right. It is a testament to American enterprise and ingenuity with more than a thousand large and small businesses in 44 states contributing to the design and assembly. SLS is America's rocket!

Let's go out to the B-2 test stand here at Stennis.

- [*LIVE VIDEO FEED OF ASTRONAUT RAJA CHARI AND ENGINEER DAWN DAVIS*]

Raja and Dawn will you please stand up. Thank you for all you do.

After the Green Run, the next time this core stage will roar to life will be on the launch pad at Kennedy for the Artemis 1 mission to the Moon.

After Artemis 1, these RS-25 engines behind me will launch American astronauts to the Moon for the first time since Apollo on Artemis 2 and Artemis 3.

That's for Artemis 2 and that's for Artemis 3. Thank you, Aerojet Rocketdyne!
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Another pair of components vitally important to the Artemis Program and our eventual missions to Mars are the Human Landing System and the Gateway. The President's 2021 Budget supports these critical elements of the Artemis architecture that will enable us to explore the Moon in a way that's never been done before.

The Gateway, or our 'Gateway to Mars' as I like to call it, is the civilization-changing technology that will propel us to Mars for the first time in human history.

Constructing this space vehicle in orbit around the Moon will help us prove the technology we need for an eventual crewed mission to the Red Planet. NASA's Science Mission Directorate and NASA's Human Exploration and Operations Mission Directorate will work together like never before to make this a reality.

Parts of our 'Gateway to Mars' are already under development and the 2021 budget will allow us to start construction on the others. Prototype thrusters that take advantage of solar electric propulsion developed by NASA's Space Technology Mission Directorate were completed and delivered by commercial partners last year. Thank you again, Aerojet Rocketdyne!
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The Human Landing System is another critical element of the Artemis architecture. One of the most noteworthy features of the 2021 fiscal budget is the $3.3 billion dollars President Trump has directed for development of the Human Landing System.

2020 marked the first time we've had direct funding for a Human Landing System since the Apollo Program. The Human Landing System, or HLS, will be used to ferry American astronauts between the lunar surface and the Gateway.

Last year, our agency's HLS team went above and beyond the call of duty in response to the Vice President's 2024 announcement. In record time, they executed the first step in calling for industry proposals for an entirely new multi-billion dollar program.

What normally would have taken NASA two years was accomplished in roughly six months. NASA is serious about meeting our 2024 goal and this team's excellent work demonstrates our desire to get the mission right.

The HLS team is currently hard at work evaluating several proposals received from industry, and is preparing to make final awards in the coming months.
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Let's talk about a long-sought after milestone we will soon achieve: returning human space flight to the United States of America.

This year, we will once again launch American astronauts on American rockets from American soil for the first time in nearly a decade.

The emerging market in low-Earth orbit where NASA is one customer among many is revolutionizing our ability to do more science, more exploration and develop more technology than ever before.
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Although our ultimate goal is far beyond low-Earth orbit, what we do there is vital to exploration elsewhere. The President's budget fully supports the International Space Station's missions to learn about human health in microgravity, demonstrate cutting-edge technology and perform trailblazing science.

The ISS is one of the most ambitious international collaborations ever attempted. The relationships we have developed with the European, Japanese, Russian and Canadian space agencies and others are invaluable.

And this year, we mark 20 years of continuous human presence aboard the International Space Station.

As we plan to go forward to the Moon sustainably, we want to bring the American aerospace industry with us through our Commercial Lunar Payload Services initiative.

CLPS is fully supported by the 2021 budget and will utilize the capabilities of American industry to deliver 16 NASA science and technology payloads to the lunar surface starting next year. That means next year we are putting payloads on the Moon for the first time since 1972!

Let's now go out to the Goddard Space Flight Center to get an update on some of these CLPS missions.

- [*CLPS video at Goddard, featuring Noah Petro a project scientist on the Lunar Reconnaissance Orbiter*]

We'll issue two more task orders this year for deliveries to the lunar surface in 2022, and two each year thereafter, including one for delivery of the VIPER rover to search for polar ice as early as December 2022.

Alright, who loves Science? Who loves aeronautics? Who loves technology?

The 2021 budget strongly supports NASA's full suite of science, aeronautics, and technology work.

The President's budget is committed to an all-of-NASA approach in order to best move us into the next era of science and discovery. This includes supporting the Decadal Survey priorities identified by the science community, including history's first Mars sample return mission, the Europa Clipper, and more advanced Earth observation missions.

Yesterday, we successfully launched the Solar Orbiter from Cape Canaveral. This cooperative mission between the European Space Agency and NASA will conduct trailblazing science in heliophysics and give us our first images of the Sun's poles.

This budget also funds over 40 innovative science missions, accelerating our opportunities to do state-of-the-art science on the deepest parts of the universe as well as right here on Earth.

We are preparing to launch the long-anticipated James Webb Space Telescope in 2021, and this budget gives us the funds to do just that. This premier observatory will serve thousands of astronomers as they seek to better understand the universe.

Closer to Earth, the 2021 budget supports a robust fleet of next generation Earth observatory missions, including launches of Landsat-9, SWOT, and Sentinel-6A Michael Freilich, that was recently renamed after NASA's longtime Earth Science director.

Let's give a round of applause to Mike Freilich and all he's done for Earth Science!

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Technology drives exploration and technology development in the coming years will be essential for exploring the Moon and preparing crews for long-term missions on Mars.

This budget includes more than $1.5 billion dollars for exploration technology in support of the Artemis program. Some examples include turning space waste into useful gases for long duration missions and using nuclear propulsion to accelerate our path to the Red Planet.
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The 2021 budget also strongly supports planetary science, including providing funds to study the celestial bodies around us like never before.

The Mars 2020 rover is a very exciting mission that I anticipate will rewrite textbooks. This summer we will launch this rover as part of our next-generation robotic explorations.

This mission will not only look for signs of habitable conditions on Mars in the ancient past, but also search for signs of past microbial life itself, and include the first ever helicopter to fly on another world.

Mars 2020 will also test methods for producing oxygen from the Martian atmosphere for the first time, and identify resources on the surface that could support our future astronauts' long-term missions.

Furthermore, the Mars 2020 rover will initiate a long-sought after mission of returning Martian rocks and soil to the Earth for further study.

Let's now turn to NASA's Jet Propulsion Lab to hear more about this pioneering mission.

- [*JPL VIDEO OF MARS SAMPLE COLLECTION AND RETURN MISSION*]

The Mars Sample Return mission is a high priority not only for the scientific knowledge it will provide but also the opportunity it presents to tackle a difficult technological challenge, including the first-ever rocket launched from another planet.

For more than 50 years, the Aeronautics Research Mission Directorate at NASA has advanced game-changing technologies like fuel-efficient turbofan engines, fuel-saving winglets, lighter composite structures and digital fly-by-wire to shape modern aviation as we know it. Truly, NASA is with you when you fly!

Today, we are reinventing aviation for the next 50 years, where aircraft look different and are powered differently. The world of aviation is about to change forever and the men and women of NASA are leading those changes.

The 2021 budget fully supports aeronautics research that enables breakthroughs such as our X-57 all-electric experimental airplane, scheduled to fly later this year. Lessons learned from the X-57 are already being shared with the new electric vertical lift vehicle market.

We are also moving forward on the testing of the Low Boom flight demonstrator, with an anticipated first flight in 2022. A successful quiet supersonic flight demonstration will pave the way for over-land supersonic flight that could cut commercial flight times in half.

And the budget supports one aeronautics project that, in my opinion, has one of the greatest potentials to change everyday life, Urban Air Mobility.

In the near future, semi- and fully autonomous vehicles will provide many new services, and carry packages and people, in and around cities large and small.

A big part of the Urban Air Mobility world is the small drones that will transform the commercial delivery industry, emergency response, agricultural monitoring and much more.

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Friends, this is who we are at NASA. All across our agency I see people that perfectly exemplify the dedication, urgency and uncommon commitment that was called for by Vice President Mike Pence just 10 months ago.

This year, we must build on our success by continuing to devote ourselves to the agency mission.

The milestones we hit this year through the Green Run testing of the SLS and in the launching of astronauts on American-made rockets from American soil will place us on the cusp of era-defining space exploration.

And the science and technology we are working on right now will prepare us in this new era of exploration to take humanity's next giant leap to Mars.

We are the Artemis Generation, and we are going!

Thank you very much.