

ORBITER NEWS

News, announcements, and more.

NASA and SpaceX's Demo-2 Launch: A New Era for Human Spaceflight

May 27, 2020

The first human spaceflight to launch from American soil in nearly a decade is set to take place today. NASA astronauts Robert Behnken and Douglas Hurley will lift off aboard SpaceX's Crew Dragon spacecraft atop a Falcon 9 rocket from the Kennedy Space Center in Florida. The crewed flight will then dock with the International Space Station for at least one month before returning back to Earth.



NASA astronauts Bob Behnken and Doug Hurley participating in SpaceX's flight simulator. (Photo credit: NASA/SpaceX)

The historic Demo-2 mission marks the beginning of a new era for the U.S. space enterprise. As part of NASA's Commercial Crew Program (CCP), the Demo-2 flight test is the final major milestone for SpaceX before operational crewed flights can begin, starting with the Crew-1 mission anticipated for later this year. The program is also a significant departure from how NASA has traditionally operated its missions, utilizing a public-private partnership model rather than the conventional government-owned strategy.

The Aerospace Corporation provides crucial support to the Commercial Crew Program, with embedded roles on the NASA team able to leverage the FFRDC's depth of knowledge and technical expertise.

Lift Off for U.S. Human Spaceflight

While U.S. launch activity has increased exponentially in recent years, most notably due to the entrance of new commercial entities like SpaceX, these missions have largely been to deliver cargo and payload to orbit. Crewed launches introduce additional technical complexities that must be accounted for in the planning, and add unquantifiable stakes to ensuring mission success.

“At the heart of it is the fact that you’re responsible for two people’s lives who have families,” said Amy Misakonis, Senior Project Engineer at Aerospace and safety lead for the Crew-1 mission. “So, the technical systems inside the vehicle need to work. The abort system, environmental control, life support, fire suppression, parachutes – these things are even more important when you have people on the spacecraft. You need to have all those things work successfully each and every time so that the crew gets back home to their families safely.”

A New Era for Spaceflight

NASA’s decision to leverage public-private partnerships through commercial contracts has also shifted the paradigm for the broader space sector. As advancements in technological innovation have helped to reduce costs and lower the barriers to entry to access space, it has also provided more options for the space agency. For CCP, NASA has partnered with SpaceX and Boeing, both operating under fixed-price contracts with milestones that need to be met.

“Under the Commercial Crew model, we have a standard set of requirements where everyone works to the same requirements, but both providers select their own approach,” said Mike Graybill, Senior Project Engineer at Aerospace. “So, working with SpaceX and working with Boeing is very different on the NASA side. It’s important for us to understand how our providers intend to meet those requirements, and then work to perform the appropriate government role to interface and intercede in that role given how the proprietors have chosen to meet the requirements.”

Implications for the Future of Space

The Space Shuttle’s final Atlantis mission in July 2011 was the last time the U.S. launched humans into space. Since that time, U.S. space program have had to rely on foreign space agencies for human spaceflight, primarily the Russian Soyuz.

“This could potentially be huge. The previous and, to an extent, existing models we have are prohibitively expensive to get up to low Earth orbit,” said Jon Cowart, Systems Director at Aerospace’s Human Exploration and Space Flight Division for Kennedy Space Center. “Primarily, it’s been in the domain of nations being able to afford to do such things. Now with the price coming down, and us nurturing this young industry the same way the U.S. government nurtured the early railroad industry and early aviation industry, this could be the jumping off point where things can finally take off.”

Press Release: Study Explores Space's Impact on Our Daily Lives

by **Henry Truc**

May 21, 2020

EL SEGUNDO, Calif., May 21, 2020 –

Satellites surveying the environmental and economic impacts of COVID-19, rocket launches, and plans for the next lunar landing have been featured in the news recently. Despite this, it is still easy to miss all of the ways in which satellites contribute to daily life. A new [study](#) released by The Aerospace Corporation's [Center for Space Policy and Strategy](#) (CSPS) discusses the value and use of space-based capabilities and our reliance on space, sector by sector.



“More than 2,200 active satellites support earthly infrastructure, economies, and national security systems, enabling hundreds of billions of dollars’ worth of benefits over their lifetimes,” said Jamie Morin, Executive Director of CSPS. “The breakthrough technologies and satellite constellations currently in development will deepen our relationship with space even further, bringing more space-enabled capabilities and opportunities to their everyday lives.”

The CSPS study focuses on the fundamental uses of space-based assets and the world’s continuous reliance on them. The study also provides examples of how its usage will widen as satellite operators innovate and offer new products and services.

“Space technology is now so deeply integrated into many facets of daily life that it is often invisible to the casual user,” added Morin. “Space experts need to ensure that the integrated network is resilient, so that all of the downstream users can consistently rely upon space-enabled technology in our daily lives.”

Today, satellites are critical tools that provide a growing range of applications from global monitoring to using the Global Positioning System (GPS) to map out travel routes that help avoid traffic jams. Additional uses include tracking the delivery status of groceries or other essential packages from cellular phone devices or through the company’s website. Remote-sensing satellites reveal what is happening on the Earth’s surface in near realtime, and weather satellites provide data and imagery to support the daily forecasting of weather.

Different parts of the economy also depend on space-based services to varying degrees. Utility companies can synchronize energy flows across the grid, the stock market exchanges record transactions, and oceanographers can track endangered whales.

To learn more, download the [CSPS report](#).

About The Aerospace Corporation

The Aerospace Corporation is a national nonprofit corporation that operates a federally funded research and development center and has approximately 4,000 employees. With major locations in El Segundo, Calif.; Albuquerque, N.M.; Colorado Springs, Colo.; and the Washington, D.C., region, Aerospace addresses complex problems across the space enterprise and other areas of national significance through agility, innovation, and objective technical leadership. For more information, visit www.aerospace.org. Follow us on Twitter: [@AerospaceCorp](https://twitter.com/AerospaceCorp).

Atlas V USSF-7 Launch: The (Space) Force is With You

May 19, 2020

On Sunday morning, the Atlas V AV081/USSF-7 mission was successfully launched from Cape Canaveral Air Force Station (CCAFS) Space Launch Complex-41 at the opening of the launch window at 09:14 AM EDT. The X-37B space plane payload was successfully delivered to its intended orbit within 1.4 sigma of predictions.

The launch team was treated to special congratulatory remarks on the flight commentary net right after spacecraft separation – delivered by the Secretary of the Air Force and former Aerospace Board Chair

Barbara Barrett, and the United States Space Force Chief of Space Operations, Gen. Jay Raymond.

Aerospace's Spacelift Telemetry Acquisition and Reporting System (STARS) team continued to enhance the remote [STARS capabilities](#) that were demonstrated during [the AEHF-6 launch](#) to allow for remote use of telemetry, voice and video during the launch countdown. For this flight, the STARS team deployed an enhanced VCOM virtual voice intercom system that provides multi-channel full-duplex voice capabilities similar to the voice matrix capabilities inside STARS.

Read the [full article on Aerospace.org](#), written by Randy Kendall, Vice President of Launch and Enterprise Operations (LEO) at The Aerospace Corporation.



Experiments on board included the flight of the FalconSat-8 smallsat, a joint U.S Air Force Academy/Air Force Research Lab project, as well as two NASA payloads to study space radiation effects on materials and seeds, and a Naval Research Laboratory space solar power experiment. [Photo Credit: ULA/Flickr]

Mobilized: Aerospace Employees on the Frontlines of the COVID-19 Fight

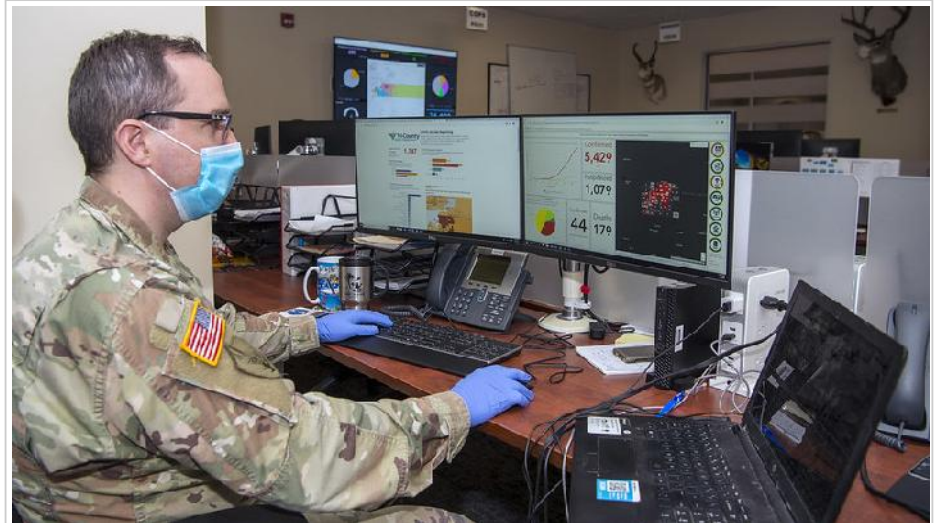
May 06, 2020

With the battle against COVID-19 ongoing, the U.S. military Reserve and National Guard have now mobilized **nearly 45,000** members around the country to provide much-needed support in a variety of roles as part of the nation's response to the pandemic. With May being National Military Appreciation Month, it's a perfect time to acknowledge their valuable contribution and to show our appreciation.

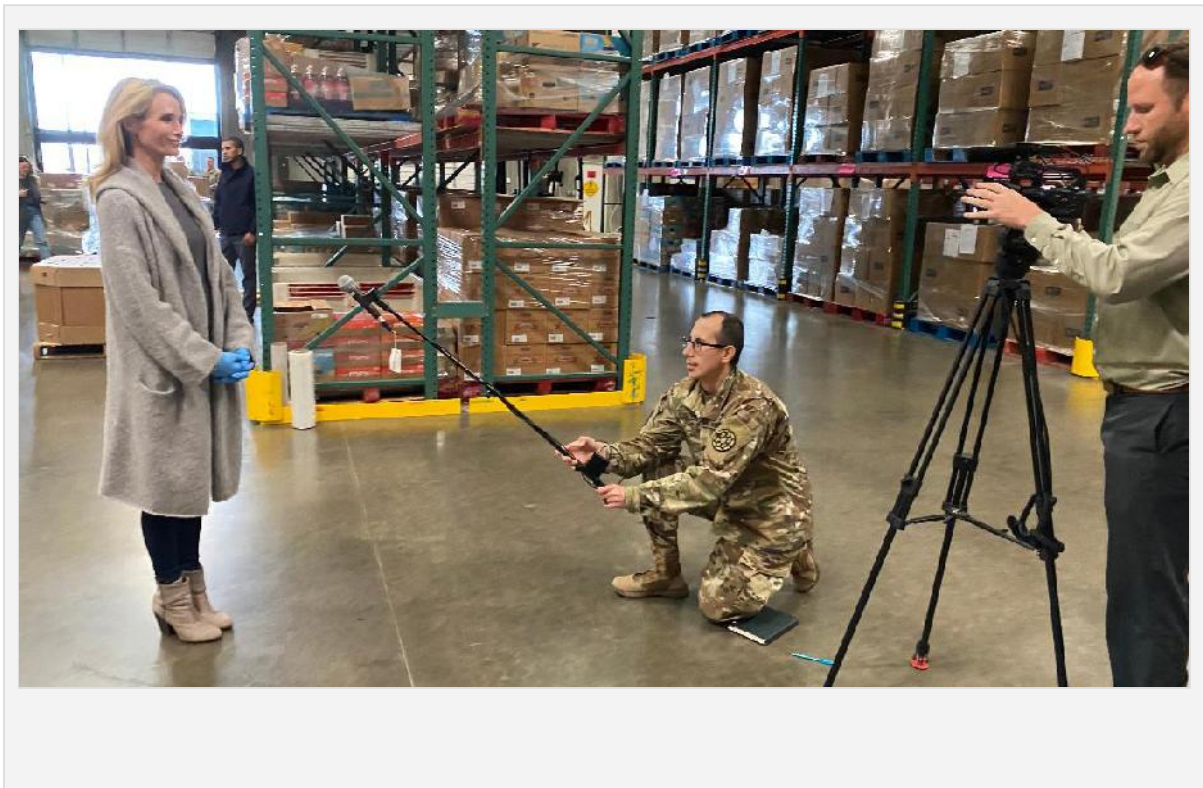
At Aerospace, about 15 percent of the company's workforce is

comprised of military veterans, which includes those still serving in the Reserve and National Guard. In fact, several Aerospace employees have been mobilized by the State or Federal authorities, serving on the frontlines of the crisis. While they may be called away for duty, their Aerospace colleagues are rallying around them so that they can continue fighting the good fight.

"We are providing humanitarian support," said 1st LT. Abraham Gonzalez-Silva, who is an Information Assurance Specialist at Aerospace currently deployed in the National Guard Public Affairs Office in Rosewood, Calif. "If you look on social media, I'm sure you've probably seen people posting pictures or videos of tanks being moved on a train, and they're thinking the National Guard is going to set up martial law. The mission is a complete 180 of that. We're here to work at food banks and augment staffing at medical facilities, things like that."



Aerospace employee Capt. Alexander Gibson performs plans and logistics operations at the Arapahoe county Sheriffs Emergency Operations Center, Centennial, Colo. (Photo Credit: Colorado National Guard)



On the Frontlines

Capt. Alexander Gibson, Project Engineer in System of Systems Engineering, is one Aerospace employee on active leave, currently serving with the Colorado Army National Guard assisting Emergency Operation Centers in Arapahoe County, Colo.

“It’s been very different than anything I’ve done in my National Guard or engineering career, but it’s been immensely satisfying work, getting to work with the local community and getting to really do things that makes a difference for what is really an unprecedented situation,” Gibson said.

He is applying his technical skills and military experience to augment the local Sheriff’s Department’s own professional staff with logistics and recovery planning for the local community, while also coordinating those efforts with nearby counties and other areas around the state.

“I really love being able to serve my country in a military capacity that has a strong technical aspect to it,” he said. “I’ve really enjoyed that because it has fulfilled both those niches for me—you have to understand both the technical aspects but also how it applies to national defense and domestic operations.”

Gibson, who joined Aerospace in February, said he was called to duty during a recent weekend and told to report the following Monday. He notified his manager, John Halpine, who spared no time in making sure Gibson had what he needed and was supported throughout his time on leave. Other Aerospace colleagues have since reached out to him, as well.

“I’ve appreciated the support, both administratively but also personally from Aerospace through the whole process,” he said. “I think that’s a really big piece, knowing that all of that is taken care of really lets me

focus on the National Guard mission.”

Aerospace Supports Military Veterans

While not activated specifically for COVID-19, 1st LT. Justin Neglia, who is also an Information Assurance Specialist at Aerospace awaiting deployment as an Army Reservist to Iraq, has also experienced the support system around him.

“Aerospace has been very supportive of their Reserve personnel,” he said. “There was a whole bunch of wonky things with pay and things like that, and they couldn’t have done enough to fix it. They were supportive of me going on my mission in the first place, even if it meant that I would be gone for an extended period of time. That’s the biggest thing to me. Aerospace doesn’t just say that they support the military, they actually do.”



The company has policies in place that cover many aspects of military leave, including paid absence for Reserve Component annual training as well as supplemental pay when members are called up to serve in an active status. Employee benefits are still covered during this time, as well.

“When I was mobilized, I did not really worry at all about having my job when I came back,” said CAPT Mary Ponce, Senior Engineer Specialist in the Integrated Cost & Schedule Analysis Department and a Cryptologic Warfare Officer for the U.S. Navy. “That meant a lot. I also knew that all of my insurances at Aerospace for my family were still intact. It gave me peace of mind knowing that if my family needed medical attention, they could use my current insurance. What’s good is when you’re called upon to work in your military capacity, I think the management teams in general here are very supportive of all of it. That’s a big thing.”

When she was deployed to Afghanistan as part of the Navy for over a year in 2014, Ponce said the support from her Aerospace colleagues and managers really made a difference throughout her experience. She received care packages, letters, emails, and even phone calls from her colleagues, which also helped her stay connected to the Aerospace community.

Ponce currently serves as the Vice President, Reserve Mentor for Aerospace Military Veterans (AMV), which focuses on enhancing inclusivity while also celebrating and honoring veterans and military at the company. AMV helps to clarify and disseminate information to its members and works with Aerospace leadership to advocate for veteran and active military issues within the company and community.

“You have to realize that there is a large population of Aerospace employees who are either retired military or are still in the military on the Reserve side,” Ponce said. “I think because of that affiliation and because of who our customer is, the workforce is able to bring a unique perspective to the table because they’ve been on the other side. I think Aerospace recognizes the value of that and it makes it a win-win situation all around.”



Supporting Our Troops

Each year, AMV also hosts various events to honor and celebrate veterans and active military, as well as to help generate more awareness of their contributions and the issues they face. Examples include annual Veterans Day activities, inviting guest speakers, and partnering with Aerospace’s Corporate Social Responsibility (CSR) to send care packages and letters of support through Operation Gratitude.

May 2020 Obituaries

May 01, 2020

Sincere sympathy is extended to the families of:

- **Bertrand Bertrando**, member of technical staff, hired Sept. 7, 1963, retired Sept. 1, 1991, died April 9, 2020
- **Ollie Burkhart**, member of administrative staff, hired Jan. 3, 1961, retired Aug. 1, 1993, died April 8, 2020
- **Laughlin Andrew Campbell**, member of technical staff, hired Sept. 25, 1978, retired June 1, 2004, died March 9, 2020
- **James Fay**, member of administrative staff, hired Nov. 15, 1962, retired May 1, 1990, died March 21, 2020
- **Julie Norma Goldner-Fuhrman**, office of technical support, hired Aug. 10, 1970, retired Aug 1, 1993, died April 4, 2020
- **Richard Golightly**, member of technical staff, hired Dec. 6, 1962, retired March 1, 1998, died April 14, 2020
- **Robert Grove**, member of technical staff, hired Aug. 13, 1962, retired Sept. 1, 1983, died April 7, 2020
- **Timothy Hanrahan**, member of technical staff, hired June 12, 1963, retired Oct. 1, 1996, died April 18, 2020
- **John Hardin**, member of administrative staff, hired Sept. 12, 1960, retired April 1, 1991, died April 5, 2020
- **Kenneth Horio**, member of technical staff, hired March 23, 1987, retired Aug. 1, 2003, died April 18, 2020
- **Hans Karrenberg**, member of technical staff, hired Nov. 10, 1960, retired March 1, 1998, died April 1, 2020
- **Richard Ragar**, office of technical support, hired March 13, 1961, retired Jan. 1, 1989, died April 9, 2020
- **Helen Raymond**, office of technical support, hired Nov. 2, 1970, retired Jan. 1, 1989, died April 17, 2020
- **Calvin Schneider Jr.**, member of technical staff, hired Oct. 16, 1972, retired Aug. 1, 2009, died April 27, 2020

To notify Aerospace of a death and have it included in the Orbiter, please contact People Operations at (310) 336-5107.

These articles are reprinted from The Orbiter, a publication of The Aerospace Corporation 2310 E. El Segundo Blvd., El Segundo, CA 90245-4691 310-336-5000

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Contact Orbiter staff: Orbiter@aero.org