AEROSPACE

ORBITER NEWS

News, announcements, and more.

Aerospace's 2021 Annual Report: Driving Speed and Resilience for Space

January 31, 2022

The rapidly changing space domain calls for new ideas and new approaches to accelerate the pace of innovation and respond to the threats we face. This year, The Aerospace Corporation charted a course forward in this dynamic landscape that maximizes our value and meets the evolving needs of our customers by building on the excellence that has defined our company throughout its history.

Aerospace is at the forefront of shaping the space and ground system architectures of the future, which will strengthen our nation's security while laying the foundation for a new era of human exploration and achievement in space.

We invite you to explore the 2021 Annual Report, *Driving Speed and Resilience for Space*, to learn more about the many ways Aerospace is making a difference for our customers and for our nation. It speaks to our commitment, now and in the future, to achieving our vision: *The nation's trusted partner, solving the hardest problems for the preeminent space enterprise*.

Explore the 2021 Annual Report here.

Advancing Collaboration Across a Rapidly Evolving Space Enterprise

January 31, 2022

3D rendering of a satellite orbiting the earth with illuminated cities at night

The modern space domain is rapidly evolving into an increasingly complex and interconnected environment, with a growing number of emerging players and new technological advancements accelerating the pace of a shifting landscape.

Solving the hardest problems in space now requires a higher level of coordination and collaboration than ever before. The Aerospace Corporation is working across the space enterprise, partnering with national space agencies to identify end-to-end mission needs and to deliver innovative and integrated solutions at the speed of relevance.

"Aerospace is uniquely positioned to increase up-front, cross-customer engagement to achieve mission success from an enterprise perspective. We are working with and across diverse customers and mission areas to advance our nation's capabilities to lead in space," said Mark Silverman, Chief Engineer of Aerospace. "The goal is to develop integrated perspectives and solutions leveraging our unique role as the FFRDC for the space enterprise."

As the trusted partner for space, Aerospace looks to deepen its impact by harnessing the unparalleled breadth and depth of its technical expertise, convening strategic engagement and alignment across National Security, Civil and the rapidly emerging Commercial space while driving the maturation of enabling capabilities, such as digital engineering, cyber, artificial intelligence and rapid prototyping.

Moving Farther, Faster, Together

The modern space enterprise is evolving toward one that is distributed, interoperable, and fully integrated with digital capabilities. Aerospace is supporting its customers in bridging connections across diverse stakeholders that drive the alignment of overlapping needs, efforts and resources to advance shared solutions.

A primary example where integrated operations could create exponential value is in data. The volume of accessible data has expanded beyond the point of human comprehension. Furthermore, different end- users have different needs, and agencies have their own methods of acquiring, storing and using data. However, in order for decisionmakers to rapidly extract actionable intelligence in a real-world scenario across multiple domains, information must be able to be integrated and automated to support next-generation capabilities.

Aerospace continues to support National Security Space in bringing together multiple agencies as well as commercial partners to advance this effort for the warfighter, human spaceflight, and science-related missions.

Leveraging New Opportunities of Modern Space

Due in large part to advances in the commercial sector, the barriers of access to orbit have never been lower. However, reaching the Moon, Mars and beyond while establishing the necessary infrastructure to operate effectively will require a level of effort and resources that no single agency can provide on its own.

However, collaboration and coordination across government agencies could create meaningful opportunities to leverage economies of scale as well as more cost-effective commercial capabilities that optimize value of investments in the national interest.

As an example, in the area of cislunar space, Aerospace is broadly engaged across multiple dimensions of the national strategy in support of Civil and National Security Space customers. Aerospace's experts are well positioned to promote cross-agency and broader partnerships that advance integrated approaches that enable the space enterprise to achieve more by working together.

Fostering an Integrated Space Enterprise

Aerospace is dedicated to delivering mission success at the enterprise level, supporting its government customers with continuous engagement and a unique perspective that spans across a broad range of mission areas. As the space domain continues to evolve, navigating this changing playing field of new and diverse players will require thinking bigger and adapting the understanding of what "success" really means.

"Aerospace stands ready with its customers and partners to advance the integrated perspectives required to achieve end-to-end mission success," Silverman said. "With our deep technical expertise and broad reach across the space enterprise, it is a responsibility we embrace."

This article is featured in Aerospace's 2021 Annual Report. ***Explore the full report here****.*

Atlas V USSF-8 Launch Delivers Fifth and Sixth GSSAP Satellites to GEO

January 27, 2022

A United Launch Alliance (ULA) Atlas V rocket lifted off from Space Launch Complex-41 at Cape Canaveral Space Force Station, Florida on Jan. 21, successfully delivering the fifth and sixth satellites to the Geosynchronous Space Situational Awareness Program (GSSAP) network for the United States Space Force.

The USSF-8 mission to geosynchronous orbit (GEO) was the first and only planned use of an Atlas V 511 launch vehicle configuration. The 511 launch vehicle is a unique configuration that uses one of the short five-meter payload fairings and only one strap-on solid rocket booster along with a single engine Centaur III upper stage.

The mission experienced no significant issues and lasted approximately six hours and 45 minutes from lift-off to final space vehicle separation. The launch marked the 91st successful launch of an Atlas V rocket, the 148th launch for ULA, the first 511 configuration vehicle and the first Atlas V mission of 2022.

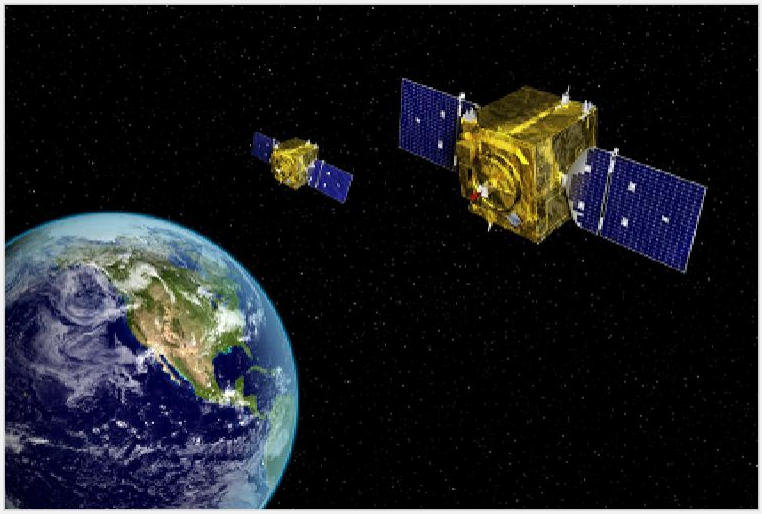
Aerospace supported the USSF-8 mission, continuing the legacy of 100% mission success for the National Security Space Launch program. [Image credit: US Space Force]

The USSF-8 mission payload was comprised of two space vehicles on a payload provided dispenser. The satellites are a part of the GSSAP network, which is a space-based capability operating in the near-GEO regime supporting U.S. Strategic Command space surveillance operations as a dedicated Space Surveillance Network (SSN) sensor.

GSSAP satellites collect space situational awareness data allowing for more accurate tracking and characterization of man-made orbiting objects. From near-GEO, it has a clear, unobstructed and distinct

vantage point for viewing Resident Space Objects (RSOs) without the interruption of weather or the atmospheric distortion that can limit ground-based systems.

Data from GSSAP uniquely contributes to timely and accurate orbital predictions, enhancing our knowledge of the GEO environment, and further enabling space flight safety to include satellite collision avoidance.



The USSF-8 mission delivered the fifth and sixth satellites for the Space Force's Geosynchronous Space Situational Awareness Program (GSSAP). [Credit: US Space Force]

As with prior National Security Space missions, The Aerospace Corporation conducted independent analyses and evaluations of the flight systems, working with the USSF to augment ULA's mission assurance process to ensure the continued National Security Space Launch (NSSL) program's legacy of 100 percent mission success. Special attention was placed on first flight hardware items implemented for performance improvements and/or cost savings.

"My sincere thanks to our SSC and Aerospace teammates on the first-ever Atlas V 511 launch. This USSF-8 mission enhances our nation's space situational awareness capabilities, providing more accurate tracking and characterization of orbiting objects," said Col. Erin Gulden, USSF-8 mission director and Launch Enterprise Atlas and Delta Division Chief. "This wouldn't be possible without [their] personal commitment and dedication – immediately following STP-3, through the holidays and continued pandemic challenges. Thanks to the team for everything they do to support our Nation. It remains my honor to serve with such an amazing team."

The next Atlas V mission will be NASA's GOES-T in early March and the next Atlas V NSSL mission is USSF-12 in early April.

Written by Craig Larson, General Manager of Launch Operations Division.

The State of DEI at Aerospace

January 14, 2022

Aerospace has been dedicated to supporting diversity, equity and inclusion (DEI) as part of our core value of *Commitment to Our People*.

In the summer of 2020, we deepened this commitment in response to the national dialogue around racial inequity and bias by designing an even more comprehensive, best-in-class program, with increased funding to support DEI initiatives across six focus areas led by our Aerospace Committee for Equality (ACE) and our Executive Champions.

We will continue to advance our commitment to DEI in 2022, building on our progress of creating an inclusive work environment that embraces diverse perspectives, ideas, experiences, and people.

At Aerospace, our people are our greatest strength. We are committed to recruiting, developing, and retaining a workforce whose diverse backgrounds and perspectives drive innovation and enable us to solve to the hardest problems in space for our nation. Together, we will continue to build on the foundation we've established to strengthen our culture and foster an environment where all our people can thrive.

Read more about our accomplishments and ongoing goals in ***the State of DEI Report***.

MLK: Celebrating a Day of Service

January 14, 2022

Dr. Martin Luther King Jr. dedicated his life to serving others and the pursuit of making a more just society, inspiring many others to do the same. This legacy is recognized through the national day of service on Martin Luther King Jr. Day, which calls on all Americans to take citizen action to improve their communities by donating and volunteering.

"This year, I'm glad that for the first time Martin Luther King Jr. Day will be an Aerospace corporate holiday, which I feel is necessary to fully acknowledge the significance of the day and what it represents," Steve Isakowitz, President and CEO, wrote in his message to employees. "It's an opportunity to honor the life and work of our country's greatest champion for civil rights, and to be reminded that our society is a stronger, better place when all our voices are represented and heard."

Participation in the day of service can come in many forms. The resources below are just a few ways to find opportunities to get involved.

- Volunteer Match
  - Through Volunteer Match, employees can search a database of volunteer opportunities and find one that fits their needs and desires. A variety of volunteer opportunities and commitments are available with both remote and in-person activities.
- Aerospace's Mentoring Initiative
  - Employees can get involved this year during National Mentoring Month and sign up to mentor youth in their communities. Aerospace provides a variety of ways for employees to get involved, from creating a one-minute video, mentoring once per month, or being a judge for Science Olympiad.
- Become an Aerospace Volunteer
  - When you register as a volunteer through this link, you will receive email updates from Aerospace about new and upcoming volunteer opportunities.

Those volunteering this Monday are encouraged to record their efforts on AeroCares.

How are you planning to celebrate Dr. King's legacy and give back to the community? Please share in the comment section below.

The Hubs: Furthering Internal Tech Strategy and Situational Awareness

January 11, 2022

Advancing technical excellence to solve the space enterprise's hardest problems requires continuous growth in knowledge and capabilities.

The Hubs Leadership Team recently identified ways to refine how this community of information-sharing networks can further align investments, connections and Aerospace expertise toward achieving Enterprise Mission Success. [Credit: Berting, 2019]

Aerospace's Engineering, Science & Technology Hubs are devoted to enabling cross-customer, cross-organizational knowledge sharing and integration through internal and external situational awareness, while providing guidance for corporate technical investment strategy. With past successes and lessons learned in mind, the Hubs Leadership Team recently identified ways to refine how this community of information-sharing networks can further align investments, connections and Aerospace expertise toward achieving Enterprise Mission Success.

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"Space has changed, and the industry is moving very rapidly. We can maximize what Aerospace can do for our customers by looking across the boundaries," said Jennifer Tanzillo, Hubs Principal Director and Principal Director in Aerospace's Science and Technology Strategy & Development. "If you can make the most of the connections across our customers and internal groups – make the most of the knowledge and skills that people have, we're going to support our customers better."

A Team of Teams

The Hubs were created in 2017 and are currently comprised of nine individual communities, ranging in topics from small satellite technologies to physics of failure, the Hubs have multiple focus areas to help guide

internal investment priorities and improve situational awareness. However, in its previous forms, activities within these communities focused primarily within their own areas of expertise and networks, and the Hubs recognized an opportunity to reach across to connect with fellow Hub communities.

"We realized as we looked at our own organization, that the way we were structured really reflected the way Aerospace organizations worked three or four years ago," Tanzillo said. "Since the Hubs' beginning, there has been a push to integrate with each other and across the corporation. There's a need for people to share more cross boundaries information, and this has been reflected in feedback from our community members that they'd like to better connect across boundaries."

As a step towards breaking down existing barriers, the Hubs leadership team is implementing structural modifications that will help encourage more situational awareness and opportunities for building connections. For example, the Hubs leadership team is working with program office contacts to maintain ongoing awareness of customer needs, an action that could help link similarities from across the base.

Another change occurred among the Hub community areas: The Position, Navigation and Timing (PNT) and Advanced Communication Technologies Hubs were combined into the new SATCOM/NAV Hub. Finding synergy and opportunities for the combination of other Hubs will be an ongoing process over the coming months.

Tackling Bigger Questions

In addition to providing deliverables and products, such as one-time reports and the annual Tech Investment Priorities (TIP) memo, a new initiative is underway: Hubs Projects.

"During conversations with leadership about how to allocate funding for Aerospace internal research, there was a common theme that Aerospace can't do everything," said Peter Hung, Hubs Outreach and Operations Lead and Project Leader in Aerospace's Science and Technology Strategy & Development. "This need of figuring out where we should focus our funding, along with our previous work on Hubs White Papers, inspired the Hubs Project initiative."

Hubs Projects will provide answers to strategic questions related to a technical investment area over a period of four to eight weeks. The framework brings together cross-disciplinary teams from across the Hubs and engages contacts from OCTO, ETG and senior leadership to help answer questions.

This new undertaking will allow the Hubs to address shifting corporate priorities that may fall outside its traditional scope. The structure also includes flexibility to bring in temporary Hub leads as needed, flexing the number of projects that can be executed annually based on the budget, time and personnel constraints.

Connecting an Expansive Community

The Hubs seek to connect individuals by augmenting and expanding their existing networks. By doing so, the levels of situational awareness and synergy improve, helping Aerospace effectively meet customers' needs.

All Aerospace employees are encouraged to find one or more Hub community to participate in. Beyond sharing information, members can find other experts with similar research interests, seek out ideas and make connections with colleagues.

The Hubs will continue to provide opportunities for connection and discussion through its monthly meetings. These gatherings will focus on cross-cutting strategic topics of interest to help connect staff with the TIP theme areas, group strategies and other technical topics. Other ways to engage include joining the general Hubs Microsoft Teams group or joining a specific Hub community's Teams channel.

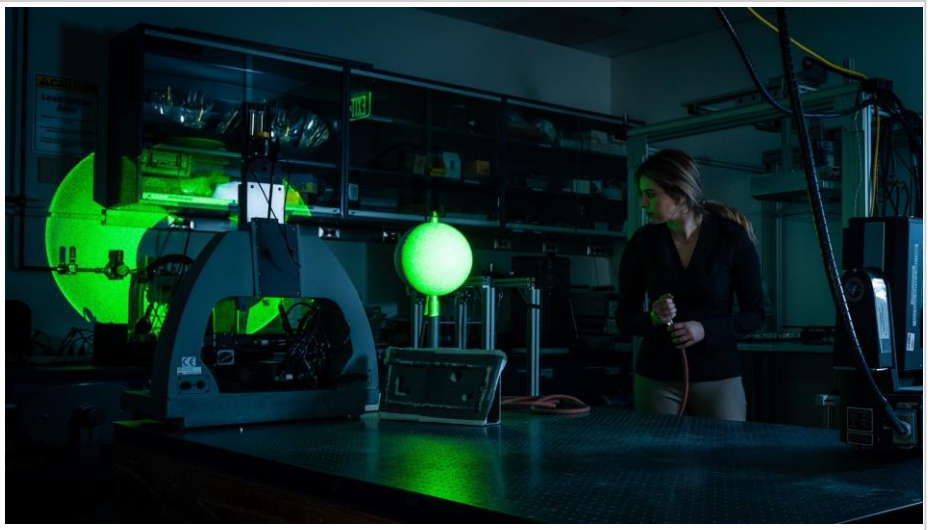
"We rely on everyone at Aerospace to help us form this community," said Hung. "The more people get involved, the greater the value Hubs can bring as a resource. We're here to help make those connections among individuals and break down the silos."

For more information about the Hubs or to join any of the communities visit the ***Hubs SharePoint site****.*

Take a Virtual Tour of Aerospace's Non-Destructive Evaluation (NDE) Lab

January 03, 2022

The Aerospace Virtual Tours allow you to digitally navigate through some of our world-class labs to learn more about the innovative and complex work our experts do every day to advance space capabilities. Be sure to check out what other virtual tours are available on Aerospace.org.



Aerospace's Non-Destructive Evaluation (NDE) Lab analyzes parts and materials – without destroying them in the process. Oftentimes a customer needs to know if a component is damaged, but it's hard to do an inspection because the component is already installed or they don't want to cut the part open.

This is one of the most advanced NDE labs in the country, and it's the place to go if you have a problem no one else can solve. We are equipped with all major NDE capabilities, and our innovative staff has advanced degrees in materials science, physics, electrical engineering, and mechanical engineering. We take all that expertise and pit it against the toughest technical challenges, often on a tight deadline.

Explore this lab to see our X-ray, ultrasound, shearography and other capabilities that we use to inspect materials. We often tailor our approach to a specific issue, since each inspection presents its own

challenges. We don't just stay in the lab, however. We have a variety of portable methods that we can bring promptly to the site of a problem.

With our breadth of capabilities and expertise, customer with last-minute requests and challenging inspection problems can benefit from our ready-to-deploy inspection techniques.

Explore the **Non-Destructive Evaluation (NDE) Lab** to learn more.

January 2022 Obituaries

January 01, 2022

Sincere sympathy is extended to the families of:

- **Thomas Alley,** member of technical staff, hired March 30, 1964, retired Feb. 1, 1999, died Dec. 18, 2021
- **Charles Anderson,** member of technical staff, hired July 17, 1961, retired Jan. 1, 1993, died Oct. 31, 2021
- **Janet Asay,** office of technical support, hired Oct. 3, 1988, retired May 1, 2011, died Nov. 10, 2021
- **Richard Boldt,** member of administrative staff, hired Dec. 5, 1960, retired Feb. 1, 1993, died Dec. 15, 2021
- **Richard Castro,** office of technical support, hired June 30, 1980, retired Dec. 1, 2019, died Nov. 12, 2021
- **Samuel Clark II,** member of technical staff, hired July 6, 1981, retired April 1, 1998, died Dec. 10, 2021
- **Gary Coldren,** member of technical staff, hired June 9, 2003, retired Nov. 6, 2015, died Sept. 27, 2021
- **Robert De Lorenzo,** member of technical staff, hired April 26, 1965, retired Oct. 1, 2001, died Nov. 26, 2021
- **Karen Haddock,** office of technical support, hired Aug. 11, 1980, retired Sept. 1, 1992, died Dec. 22, 2021
- **Charles Henderson,** member of technical staff, hired Dec. 10, 1973, retired March 1, 2012, died Sept. 5, 2021
- **Larry Jordan,** member of technical staff, hired Dec. 14, 1987, died Nov. 26, 2021
- **Virginia Klein,** member of administrative staff, hired Oct. 20, 1980, retired June 1, 1988, died Oct. 30, 2021
- **Elizabeth Knitter,** office of technical support, hired Sept. 25, 1962, retired Dec. 1, 1990, died Dec. 1, 2021
- **Charles Kroeckel,** member of technical staff, hired Aug. 28, 1961, retired Sept. 1, 1987, died Sept. 22, 2021
- **Paul Nordin,** member of technical staff, hired June 24, 1963, retired March 1, 2014, died July 5, 2021
- **Randolph Ott,** member of technical staff, hired Dec. 5, 1983, retired Jan. 1, 1999, died Oct. 31, 2021
- **Charles Overbey,** member of technical staff, hired May 1, 1961, retired Jan. 1, 1981, died Nov. 23, 2021
- **Robert Parrish,** member of technical staff, hired Aug. 6, 1984, retired March 1, 2003, died Dec. 23, 2021

- **Brooksie Silva,** member of administrative staff, hired Nov. 28, 1977, retired Sept. 1, 1991, died Dec. 6, 2021
- **Sam Silverberg,** member of technical staff, hired Feb. 20, 1961, retired June 1, 1987, died Nov. 7, 2021
- **James Slattery,** member of technical staff, hired July 12, 1965, retired Nov. 1, 2002, died Nov. 5, 2021
- **David Sylvain,** member of administrative staff, hired Sept. 25, 1989, retired Oct. 1, 2017, died Dec. 7, 2021
- **Brad Tapie,** member of technical staff, hired Dec. 13, 1999, retired Aug. 1, 2019, died Nov. 13, 2021
- **Paul Zittel,** member of technical staff, hired April 26, 1976, died Nov. 29, 2021

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