National Aeronautics and
Space Administration

Armstrong
Flight Research Center

2024 STRATEGIC PLAN

SAFETY | EXCELLENCE | TEAMWORK | INTEGRITY | INCLUSION

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An F/A-18 sits on the apron at NASA's Armstrong Flight Research Center in Edwards, California, prior to a supersonic research flight.

NASA/Lauren Hughes

ACHIEVING OUR VISION AND MISSION

Armstrong Vision

Separate the real from the imagined through flight.

Armstrong Mission

Our mission is to be the leader in high-risk atmospheric flight research, leveraging our expertise to advance technology and science for the benefit of NASA and the Nation. We develop and validate aeronautical concepts using flight vehicles, payloads, and advanced instrumentation, deliver scientific payloads to critical locations in Earth's atmosphere around the globe, and validate advanced space exploration concepts.

Armstrong Strategy

Meeting today's commitments while preparing for tomorrow's mission.

Leadership Intent

NASA Armstrong's long-term success will be largely determined by how well we execute the mission of today while making strategic decisions and investments for tomorrow. Just as important is our constant adherence to NASA's five guiding Core Values – Safety, Excellence, Teamwork, Integrity, and Inclusion.

	Leadership Intent
SAFETY	• Acknowledge, understand, and manage risk. • Speak up. • Develop and promote a strong safety culture, emphasizing teamwork. • Minimize work-related injuries and mishaps.
EXCELLENCE	• Understand the authorities that we have as a center. • Know our internal expertise. • Exercise our authority and expertise to solve issues locally. • Learn from past experiences. • Achieve successful outcomes.
TEAMWORK	• Acknowledge that every single organization, every project, and every team member contribute to the center's success. • Utilize the synergy of a team working toward a common goal. • Take time to get to know each other, celebrate.
INTEGRITY	• We are each accountable for our work effort and behavior. • We own our mistakes as well as successes. • Trust and respect each other. • Welcome the input and inquiry of others. • Voice difficult issues and hard questions.
INCLUSION	• Ensure everyone has a voice. • Expect/allow everyone to be creative in their problem-solving. • Maximize/expand workforce capabilities and abilities. • Provide the workforce with the most latitude possible both organizationally and within the team. • Create a sense of belonging in every team member.

Additional Information

More information regarding NASA Armstrong's leadership intent can be found on the center chief engineer's SharePoint page: Leadership Intent, Expectations and Examples. Slides are available here.

Strategic Goals and Strategic Objectives

Goal Statements		Objective Statements
STRATEGIC GOAL 1	Safely, Efficiently, and Effectively Accomplish NASA's Portfolio of Atmospheric Flight Research and Airborne Science Missions.	**Strategic Objective 1.1** Manage and execute NASA Armstrong's portfolio of work on time and on budget.
		Strategic Objective 1.2 Leverage NASA Armstrong's innovation and creativity to solve complex problems across all NASA missions by building and supporting successful teams using local and agency-wide expertise.
STRATEGIC GOAL 2	Strengthen and Grow Our Partnerships Within the Agency, With Other Government Agencies, and Across the Growing Commercial Aviation Landscape.	**Strategic Objective 2.1** Expand relationships with our external partners and the wider Aerospace Community in ways that benefit the center, the agency, and those external partners.
		Strategic Objective 2.2 Embrace and improve our partnerships with the U.S. Air Force Alliance and Airborne Science.
STRATEGIC GOAL 3	Prepare Our People, Processes, and Facilities for the Future.	**Strategic Objective 3.1** Shape our facilities, capabilities, and workforce to align with missions of the future.
		Strategic Objective 3.2 Utilize a robust continuous improvement process to learn from our successes and failures.

The ALOFT (Airborne Lightning Observatory for Fly's eye simulator and Terrestrial gamma ray flashes) mission is a collaboration between NASA and the University of Bergen, Norway. NASA's Armstrong Flight Research Center's ER-2 aircraft flies just above the height of thunderclouds over the Floridian and Caribbean coastlines to collect data about lightning glows and terrestrial gamma ray flashes. Scientists expect to collect more accurate data than ever before that can advance the study of high-energy radiation emissions from thunderstorms.

NASA/Carla Thomas

STRATEGIC GOAL 1

Safely, Efficiently, and Effectively Accomplish NASA's Portfolio of Atmospheric Flight Research and Airborne Science Missions.

This goal flows from the first part of our strategy statement, "Accomplish today's work …" NASA Armstrong has a broad portfolio of projects and tasks that span multiple NASA missions, other government partners, and commercial reimbursable work. Our goal is to continue to improve our ability to execute that work safely, efficiently, and effectively, reducing schedule delays, cost overruns, and rework.

Strategic Objective 1.1

Manage and execute NASA Armstrong's portfolio of work on time and on budget.

Performance Goal 1.1.1

No more than 20% of the projects tracked in the time-to-critical milestones product shall exceed 60 days over their baseline time-to-critical milestone target by the end of the fiscal year.

Rationale: Tracking planned versus actual time-to-critical milestones is an existing metric NASA Armstrong uses to assess center effectiveness at managing and executing missions on time.

Deliverable: Existing Code 300 metric for time-to-critical milestones.

Assessment Method: Assessment against the criteria listed.

Frequency: Annual.

Performance Goal 1.1.2

Costed rate variance for center projects shall be under 5% by end of the second quarter of each fiscal year.

Rationale: Following the project's spending plan is an effective surrogate for measuring the effectiveness of project execution.

Deliverable: Costing data for center projects.

Assessment Method: Assessment against the criteria listed.

Frequency: Annual.

Strategic Objective 1.2

Leverage NASA Armstrong's innovation and creativity to solve complex problems across all NASA missions by building and supporting successful teams using local and agency-wide expertise.

Performance Goal 1.2.1

Each fiscal year, 50% of the projects identified on our project matrix will incorporate partnerships with other NASA field centers or the NASA Engineering Safety Center.

Rationale: Leverage our ability to solve complex problems to bolster our relationships across the agency.

Performance Goal 1.2.2

Each fiscal year, 80% of the projects identified on our project matrix will include participation from four or more NASA Armstrong directorates.

Rationale: NASA Armstrong is at our best when we engage workforce from across the various technical directorates (Codes 400, 500, 600, and 700). Most projects or tasks will include at least three organizations (300, 700, and an engineering organization – 400, 500, or 600). Including a fourth organization will encourage working across organizational boundaries and leverage more of the center's skills, experience, and perspective.

Boeing's MD-90 aircraft flies from Victorville, California, to Palmdale, California, on Aug. 15, 2023. This aircraft will be NASA's future Sustainable Flight Demonstrator. Modifications to the aircraft will include changes to the fuselage and most notably the use of a transonic truss-braced wing.

NASA/Carla Thomas

STRATEGIC GOAL 2

Strengthen and Grow Our Partnerships Within the Agency, With Other Government Agencies, and Across the Growing Commercial Aviation Landscape.

NASA Armstrong is an excellent partner, working together with other missions, centers, government organizations, and private industry to accomplish shared objectives. Our goal is to establish, strengthen, and grow meaningful partnerships to ensure Armstrong's relevance and importance in meeting the nation's current and future challenges in the world of aviation, to provide a more stable demand for Armstrong's critical capabilities, to provide access to new technologies and ways of thinking, and to allow better utilization of existing capabilities wherever they reside.

Strategic Objective 2.1

Expand relationships with our external partners and the wider aerospace community in ways that benefit the center, the agency, and those external partners.

Performance Goal 2.1.1

To aid in defining quality partnerships, develop a set of criteria to measure the value of a specific partnership to the center and the agency. Create a document that captures these criteria and review this document at least once every two years for applicability.

Rationale: Developing and documenting the criteria for what makes a good partnership is an important first step in the evaluation of existing and new partnerships in terms of value to the center and the agency.

Deliverable: A document that specifies the criteria of what constitutes a good partnership.

Assessment Method: Executive Leadership Team (ELT)/Council review.

Frequency: Biannual (every two years).

Performance Goal 2.1.2

To aid in defining quality partnerships, develop a report that assesses the center's current partnerships against the criteria established in the report provided by Performance Goal 2.1.1. This report should assess how well those partnerships align with the target areas and technical competencies we wish to pursue with external partners and the wider aerospace community. Present the first iteration of the report to NASA Armstrong's ELT in December 2024, with annual updates in December.

Rationale: In the interest of expanding relationships with external partners, there is a desire for those relationships to be of good quality. Knowing how the center's existing partnerships align with a common benchmark will help ensure that we are investing and expanding relationships that are of good quality, valuable to the center, and are in target areas or technical competencies that are of interest to the center.

Deliverable: A report that assesses the quality, value, and strategic alignment of current center partnerships.

Assessment Method: ELT review.

Frequency: Annual.

Performance Goal 2.1.3

To develop good quality/satisfying partnerships and expand relationships of this type with our external partners in target areas or technical competencies for collaboration as defined by the report in Performance Goal 2.1.2, create or expand in at least one area(s) at a level of five workforce equivalent (WFE) within three years.

Rationale: *Performance Goal 2.1.2 gives us focus on what we need to define to allow us to have a measurable goal in Performance Goal 2.1.3.*

Deliverable: The report defined in Performance Goal 2.1.2.

Assessment Method: Track increases in resource commitments over time versus a baseline.

Frequency: Annual.

Strategic Objective 2.2

Embrace and improve our partnerships with the U.S. Air Force Alliance and Airborne Science.

Performance Goal 2.2.1

To embrace and improve our partnership with the Air Force Alliance, develop a plan that defines the areas, capabilities, and skills that we want to target for cross utilization (NASA Armstrong and Air Force) for the upcoming year and the means to track this utilization. Present the first iteration of the report to the ELT in December 2024, with annual updates each December.

Rationale: Defining what shops, services, or resources that we want to benefit from in a given year helps to ensure that we're actually improving the partnership.

Deliverable: Alliance Annual Utilization Plan.

Assessment Method: Review accomplishment of goals described in last year's plan.

Frequency: Annual.

Performance Goal 2.2.2

To embrace and improve our partnerships with the Air Force Alliance, our goal is to increase cross utilization (NASA Armstrong/Air Force and vice versa) of services, capabilities, and skills defined in Performance Goal 2.2.1, utilization for fiscal year (FY) 2024 is an improvement of 15% or better from the FY 2023 numbers.

Rationale: Performance Goal 2.2.1 gives us focus on what we need to define to allow us to have a measurable goal in Performance Goal 2.2.2.

Deliverable: Alliance Annual Utilization Report.

Assessment Method: Comparison of the goals in last year's plan versus the actuals in this year's report.

Frequency: Annual.

Performance Goal 2.2.3

To embrace and improve our partnerships with Airborne Science, our goal is to establish a Gulfstream G-IV platform users' group that will meet regularly to ensure the G-IV project team understands and is responsive to the changing needs of the airborne science community, specifically those targeting the G-IV platform for their science.

Rationale: Establishing a user's group for the G-IV will help ensure that this platform meets the needs of that community. It will also ensure that both concerns and best practices are heard and acted upon.

Deliverable: Regularly scheduled G-IV user group meetings with invitees that cover the full G-IV customer base.

Assessment Method: Meeting frequency, attendance numbers, and feedback.

Frequency: Annual.

Performance Goal 2.2.4

To ensure the center's high-altitude airborne science capability is maintained, create a small project group consisting of appropriate subject matter experts to develop and execute an ER-2 sustainment plan post Air Force U-2 divestment.

Rationale: The current National Defense Authorization Act (NDAA) does not support the U-2 beyond FY 2025. Once the Air Force divests of the U-2 fleet, maintaining NASA's ER-2 fleet will become significantly more challenging. Lessons learned from the SR-71 program and Johnson Space Center's WB-57 program suggest multiple operational issues should be anticipated. Prior experience with these programs as well as the U.S. Air Force Intelligence, Surveillance and Reconnaissance (ISR) Program Executive Officer provide valuable insight and partnerships for development of a successful ER-2 sustainment plan.

Deliverable: ER-2 Sustainment Plan.

Assessment Method: ELT/Council review.

Frequency: Once.

Work continues at Building 4826, the future home of the X-59 aircraft, at NASA's Armstrong Flight Research Center in Edwards, California.

NASA/Ken Ulbrich

STRATEGIC GOAL 3

Prepare Our People, Processes, and Facilities for the Future.

While successfully accomplishing our current portfolio, NASA Armstrong must continue to evolve and grow to compete for and execute the portfolio of the future. Toward this end, we must understand to the best of our abilities what that future might hold and make strategic decisions today regarding our workforce, processes, and facilities to align ourselves with that vision. We also need to learn from what we are doing today, our failures and our successes.

Strategic Objective 3.1

Shape our facilities, capabilities, and workforce to align with missions of the future.

Performance Goal 3.1.1

The center will develop a report anticipating future NASA mission priorities as driven by trends in technology and the priorities of industry, defense, and society based on inputs from our technical leads as well as internal and external customers.

Rationale: To understand what we need to do to prepare our facilities, capabilities, and workforce for the missions of the future, we need to understand what those missions of the future are likely to be. While we can't predict exactly what those missions will be, we can predict the priorities that will drive the selection of those missions.

Deliverable: Armstrong's NASA Mission Priorities Forecast.

Assessment Method: ELT review of the report.

Frequency: Five years, with annual updates.

Performance Goal 3.1.2

On an annual basis, each directorate will develop and brief the ELT on its plans to leverage the report referenced in Performance Goal 3.1.1 to better prepare our facilities, capabilities, and workforce to influence, support, and lead future NASA missions.

Rationale: Actions to shape our facilities, capabilities, and workforce to align with the missions of the future must be intentional and strategic and may take several years to reach fruition. These strategies should be documented and presented to the other directorates so we as a center are moving in the same direction.

Deliverable: Directorate Strategic Investment Plan.

Assessment Method: Generation of investment plans three months after the release/update of the Armstrong NASA Mission Priorities Forecast (Performance Goal 3.1.1).

Frequency: Annual.

Performance Goal 3.1.3

The center will consolidate the directorate plans described in Performance Goal 3.1.2 into a single strategic plan describing the center's approach to better prepare our facilities, capabilities, and workforce to influence, support, and lead future NASA missions.

Rationale: Actions to shape our facilities, capabilities, and workforce to align with the missions of the future must be intentional and strategic and may take several years to reach fruition. Creating a single unified plan will ensure our investments are complimentary and consistent across the center. These plans should include a prioritized liens list for potential investment opportunities should funding become available.

Deliverable: Center Strategic Investment Plan.

Assessment Method: Generation of center investment plan three months after the release or directorate investment plans.

Frequency: Annual.

Strategic Objective 3.2

Utilize a robust continuous improvement process to learn from our successes and failures.

Performance Goal 3.2.1

The center will implement a systematic post-project, post-test, post-major activity review process to capture both the enablers and barriers to success. When appropriate, those reviews will generate actions to update center processes and procedures to incorporate lessons. The goal is 100% of our major activities.

Rationale: We currently investigate failures, but we need to also review our performance on efforts that succeed. This is done sporadically now (deployments, individual flight debriefs, etc.) and should be broadened. We should incorporate this as a project life cycle review, administered by the center chief engineer.

Deliverable: Including after action reviews (AARs) in the NASA Armstrong project lifecycle review process.

Assessment Method: Incorporation of the AAR in our process and audits of that process.

Frequency: As required.

Performance Goal 3.2.2

The center will implement an employee suggestion program to incentivize creativity and innovation in the workforce to improve the efficiency and effectiveness of our processes.

Rationale: This is a re-creation of a program that existed at NASA Dryden in the early 1990s.

Deliverable: Employee Suggestion Program.

Assessment Method: ELT briefing on the results of that program, including number and disposition of submissions, timeliness of response, measurable improvements in efficiency, and/or effectiveness because of implementation.

Frequency: Annual.

National Aeronautics and Space Administration

Armstrong Flight Research Center
4800 Lilly Ave.
Edwards, CA 93523
www.nasa.gov/centers/armstrong

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