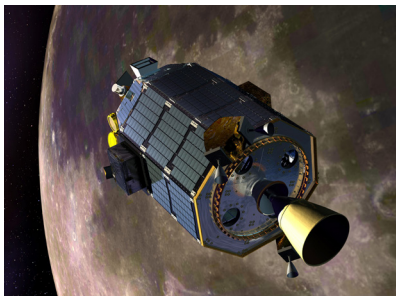
As space technology and exploration rapidly evolves, The Aerospace Corporation is leading in space innovation with numerous programs designed to discover, develop, and challenge the next generation of space thought leaders, engineers, and explorers.

A Focus on Innovation

Space is in a period of rapid innovation and growth, driven in part by commercial entities and newly democratized access to powerful tools and expertise. While our adversaries may attempt to use these new technologies to develop a strategic advantage, our customers and the nation look to Aerospace to provide guidance in addressing these potential threats. We recognize that innovation is a team endeavor that requires staff from all organizations to bring transformational, game-changing concepts to fruition.

Current Innovation Projects



Spoon

Access to space is key to ensuring technology insertion opportunities are available as needed, eventually enabling launch spaces to be selected on the fly. Project Spoon is exploring common interface standards between payloads and buses to ensure the necessary interoperability with a focus on shortening integration times and speeding experimental technologies to orbit.

Pawn

A critical element of space resiliency is the development of new tactics, techniques, and procedures for satellite operations. As missions get more complex, there's a need to advance the state of the art in simulating on-orbit maneuvers. Enter Project Pawn, a new Aerospace innovation project that strives to leverage the development tools that are standard in the gaming industry and apply them to space.

Prairie

The future of space belongs to those who are more aware, can make decisions faster, and routinely execute seemingly impossible operations. Prairie is a prototyping pathfinder designed to create architectures and technologies to significantly boost the knowledge extracted from space systems and autonomously conduct operations in space.

Building a Culture of Innovation

The speed of space development and the increased focus on space security has inspired Aerospace to elevate our culture of innovation. Aerospace created the Innovation Lab to foster an innovation ecosystem, energize the corporate culture, and accelerate the transfer of new technologies. Some of our distinctive innovation programs include:

SCRIMMAGE

A Scrimmage is a collaborative-competition process for developing fresh ideas by simulating challenges and encouraging teams to take risks in creating breakthroughs. A Scrimmage creates a healthy tension between participants when carefully architected teams independently develop a unique solution to the same problem. The teams then pitch their ideas to one another and combine into a single team to create a hybrid solution enabling a collaboration opportunity that might not have occurred otherwise.

TEST KITCHEN

The Test Kitchen is a key component to our innovation lifecycle, providing a failure-friendly environment to investigate new technologies. Researchers are encouraged to accept high-risk (but potentially high-reward) projects, which enable them to investigate new approaches that would normally be avoided. A sample Test Kitchen project is an investigation into using Blockchain in the national security space mission area. The immutable ledger transactions provided by this technology could possibly provide instant and traceable data on every part and subsystem on a satellite build, from supplier to spacecraft integrator. This project has shown great promise and is ready to graduate to a prototype effort.

SABBATICALS

To accelerate proof of concept for innovative ideas, Aerospace developed a sabbatical program where any employee can apply to spend a dedicated 40-hour workweek on a single problem. Sabbatical participants have access to a location away from their normal workspace, a modest budget to procure necessary equipment, and resources to engage subject matter experts to support their efforts. While still in the early stages of deployment, the program has already proven to be a success for both participants and management, helping to determine that projects that merit further development.

The Aerospace Corporation

The Aerospace Corporation is a national non-profit corporation that operates a federally funded research and development center (FFRDC) and has approximately 4,000 employees. The Aerospace FFRDC is aligned to support the most critical programs of the Department of Defense and the nation, and to serve as its customers' innovation partner across the space enterprise. Consistent with the competencies outlined in our sponsoring agreement, Aerospace provides strategic value through independent, intellectually rigorous, relevant, and timely products and services. With three major locations in El Segundo, Calif.; Colorado Springs; and Washington, D.C., Aerospace addresses complex problems across the space enterprise and other areas of national significance.

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