

**New Mexico Space Grant Consortium (NMSGC)
Strategic Plan
2020-2025**

Pertinent Space Grant Federal Legislation

Congress established the National Space Grant College and Fellowship Program (Space Grant) with Title II of the National Aeronautics and Space Administration Authorization Act of 1988. The National Space Grant College and Fellowship Program, through the designation of Space Grant consortia and the establishment of Space Grant programs and fellowships, was designed to broaden the base of universities and individuals contributing to and benefiting from aerospace science and technology and ultimately contribute to the development and utilization of space resources.

The National Aeronautics and Space Administration (NASA) was charged with implementation and oversight of this program. (Public L. 100-147, October 30, 1987, 101 Stat. 869-875, 42 U.S.C. 2486; and 14 CFR Part 1259, March 13, 1989.) NASA currently distributes funds to 52 university-based Space Grant Consortia in all fifty states, the Commonwealth of Puerto Rico and the District of Columbia. Each consortium is funded annually with a Space Grant award that requires a 100 percent match and with funds for fellowships. Designation of Space Grant consortia shall be for five years and may be continued based on a merit review at the beginning of the fifth year and at five year intervals thereafter.

Each Space Grant consortium shall designate a Space Grant Program Director; establish a Space Grant office; develop and implement programs of public service, interdisciplinary space-related programs, advisory activities, and cooperation with industry, research laboratories, State and local governments, and other colleges and universities, particularly institutions in their State and/or region with significantly large enrollments of racial minorities who are underrepresented in science and technology; and provide nonfederal matching funds for their Space Grant program equal to that provided by NASA.

Vision

NMSGC continues to have a prominent and permanent presence throughout New Mexico. NMSGC is the lead agency of coordination and cooperation to engage Americans in space-related technical education and research.

Mission

NMSGC advances lifelong learning in the areas related to aerospace science, technology, aeronautics, Earth observation, and space exploration to enhance knowledge, education, innovation, economic vitality, and stewardship of Earth. NMSGC advances the economic, education, and scientific benefits of space-related activities and assets in New Mexico.

NMSGC, through its affiliate members, fosters NASA's mission to "Lead an innovative and sustainable program of exploration with commercial and international partners to enable human expansion across the solar system and bring new knowledge and opportunities back to Earth. Support growth of the Nation's economy in space and aeronautics, increase understanding of the universe and our place in it, work with industry to improve America's aerospace technologies,

and advance American leadership” in the state of New Mexico. NMSGC four goals, which includes advisory goal #4, are 1. Support Balanced Research Portfolio, 2. Improve Diversity and Retention, 3. Communication and Collaboration, 4. Space-related Business Policy. These goals are intended to “enable unique opportunities for students to contribute to NASA’s work, build a diverse future STEM workforce by engaging students in authentic learning experiences and strengthen public understanding by enabling powerful connections to NASA’s mission and work.”

Goals

GOAL 1: Support Balanced Research Portfolio

NMSGC will support a balanced research portfolio that is diverse and aligns with NASA’s needs and mission objectives as identified by the agency’s mission directorates.

Objective 1: Stimulate an increase in external grants, contracts and investments from federal, industry, foundations in space research, education and economies.

Objective 1.1: Identify the baseline through key performance indicators (KPIs) such as: University funding allocated to research, as well as the quantity and extent of current public-private partnerships (e.g., number of partnerships and economic impact).

Objective 1.2: Provide/capture data on annual basis.

Objective 1.3: Develop a method for establishing/sustaining public-private partnership (e.g., cross-university collaboration).

Objective 1.4: Provide training opportunities for faculty and students for proposal development.

Objective 2: Ensure research portfolio encompass advancement of fundamental science to applied science.

Objective 2.1: When evaluating NMSGC proposals consider balance of fundamental vs. applied science/engineering.

Objective 2.2: Facilitate/disseminate NASA proposal writing workshop opportunities (e.g., Thomas Zurbuchen’s Writing Successful Mission Proposals: Observations from NASA, June 5, 2019).

Objective 2.3: Collaboration, grants, multi-institution support for proposal development.

Objective 3: Ensure that research portfolio advances data science technology relevant across all research fields. This objective addresses an ubiquitous challenge across all research fields where increasing large data sets are driving the need for improved data processing efficiency and development of smart algorithms for extracting relevant information.

Objective 3.1: Education and training of faculty and students covering data science technology (e.g., workshops, conferences).

Objective 4: Student and faculty researchers to share research outcomes with industry annually.

Objective 4.1: Connect with Undergrad Research and Creative Arts Symposium/Grad Research and Arts Symposium (e.g., First Annual University Research Fair-Nov. 2019).

Objective 4.2: Provide NMSGC proposal opportunities requiring two or more New Mexico university partners.

GOAL 2: Improve Diversity and Retention

Improve diversity, improve retention and increase the number of space professionals.

Objective 1: Increase diversity of space-industry workforce in the state of New Mexico.

Objective 1.1: Give seminars taught by underrepresented space professionals in public schools.

Objective 1.2: Support career fairs at annual conference and community colleges and universities with underrepresented populations.

Objective 1.3: Partner with MSI community colleges to provide scholarship opportunities.

Objective 2: Enable space-industry workforce retention in the state of New Mexico.

Objective 2.1: NMSGC will encourage proposals in areas developing students along NM career paths.

Objective 2.2: Advocate for business incubators in space industries

Objective 2.3: Identify a teacher in middle school and high school (e.g., SIPI I-C-Mars program, NASA Commercial Crew Program and NextGen STEM pilot initiative).

Objective 3: Increase NM space workforce numbers.

Objective 3.1: Coordinate creation of joint graduate program at NMSU, NM Tech, and UNM: Astronautical engineering, space policy and regulation.

Objective 3.2: Support social media campaign advocating STEM, NM diversity and opportunities.

Objective 4: Form task forces and socialization strategy.

Objective 4.1: Industry, labs and hiring entities.

Objective 4.2: Academia (e.g., Deans, department heads).

Objective 4.3: Socialize idea (e.g., identify need in the state).

GOAL 3: Communication and Collaboration

By 2021, develop and implement a cohesive plan for communication and collaboration among the larger aerospace stakeholder community such as Spaceport America, Virgin Galactic, Jacobs, Challenger Learning Center.

Objective 1: Facilitate regularly scheduled meetings/telcons among stakeholders to support achievement of our goals.

Objective 2: Build and maintain a database(s) of information on NM aerospace capabilities, opportunities and other resources.

Objective 2.1: Obtain funding for database development and maintenance.

Objective 2.2: Gather and populate information on resources and capabilities of NM industry, government and academic organizations.

Objective 2.3: Gather and populate information on opportunities for research, fellowships, co-ops, internships, etc., and include info on type and level of education/skills needed.

Objective 3: Develop and implement a plan for the Las Cruces Public Schools Career Readiness and other organizations to recruit and engage students at all levels in outreach opportunities.

Advisory GOAL 4: Space-related Business Policy

Develop a strategic investment plan to support growth and expansion of the space economic ecosystem.

Objective 1: Understand existing policies, resources, and businesses; characterize current space infrastructure, needs, demands, marketplace by end of 2020.

Objective 1.1: Learn what is already in place in New Mexico and other states.

Objective 1.2: Learn/understand existing models in the state of New Mexico such as for the film industry incentives, oil, STEM/STEAM, etc.

Objective 1.3: Develop a detailed campaign plan for implementation, including specific legislation goals, actions, policies, and directives desired to reach the goal.

Objective 1.4: Get a funded Economic Impact Review (EIR) by the Bureau of Business and Economic Research (BBER) to complete in time for the 2021 legislative sessions.

Objective 2:

Create a strawman strategic investment plan that includes stakeholders and companies, including members of Congress, NM legislators, NM administration, business, chambers, etc.

Objective 2.1: Create a draft of specific actions for state implementation as part of the strategic investment plan (legislation, agency directives, education initiatives, etc.).

Objective 2.2: Convey and communicate with community and organizations.

Objective 2.3: Develop and present the recommended strategic business plan to the NM legislators during the 2020 interim and regular legislative sessions.

Objective 2.4: Update and revise (iterative process) until ready for 2022 legislative sessions.

Objective 3:

Have the strategic investment plan formally presented at state legislature to be adopted by NM FY 2024.

Objective 3.1: Identify advocates and sponsors.

Objective 3.2: Support the strategic investment plan through the legislative process until adoption.

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