A YOUNG PROFESSIONAL'S PERSPECTIVE ON THE HUMAN WORKFORCE GAP IN THE SPACE INDUSTRY.

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Introduction: As Neil Armstrong transcended on the surface of the moon and took his first steps, he uttered the infamous line, "That's one small step for man, one giant leap for mankind." July 20, 1969 proved to be one of America's greatest achievements and revolutionized the journey through the frontiers of space. This feat indicated the commencement of an era for great ambition in the future of human space exploration. It should be acknowledged that our last human embarkment on the lunar surface occurred 37 years ago! With the magnitude of success exhibited within space exploration, we are now confronted with a new and more frightening challenge: a gap in the aerospace workforce. According to current NASA Science and Engineering population statistics in Figure 1, nearly 87% of its workforce is of the age 35 and older. Of that 87%, 45% of those individuals will be eligible for retirement within the next five years [1]. Now is the time for NASA and its strategic partners to collaborate on the best possible solutions for investing in the education of the future workforce to ensure sustainability of the Lunar Exploration Roadmap. In order to continue our success in space exploration, it is crucial to raise awareness through open forms of communication, educational outreach, and leveraging media outlets.

Measures:

(1) Communication: NASA and its global network need to engage and communicate with the community on the importance and relevance their space-age technologies facilitate in the advancement of this nation. Time should be allotted for those willing to volunteer for community outreach programs that will inspire and inform teachers, students, and the community regarding scientific and technological developments and opportunities.

(2) Education: The global community needs to educate teachers and students in the classroom on the growing need for science and engineering professionals in the coming era and inspire students to believe that a career in the space industry is attainable.

(3) Media: Leveraging the proper media outlets will exponentially increase the amount of support that exists for the space industry. Community websites such as Facebook, Twitter, and YouTube can be utilized to keep open communications with those individuals not closely tied to the scientific community. NIKE, Bridgestone and Energizer have all capitalized on NASA's innovation, technology and successes from the space program. Their products and advertisements provide evidence of these endeavors. Through the use of media outlets, the success and interactive products made possible through the exploration of space can be used to increase awareness and support for future space exploration initiatives.

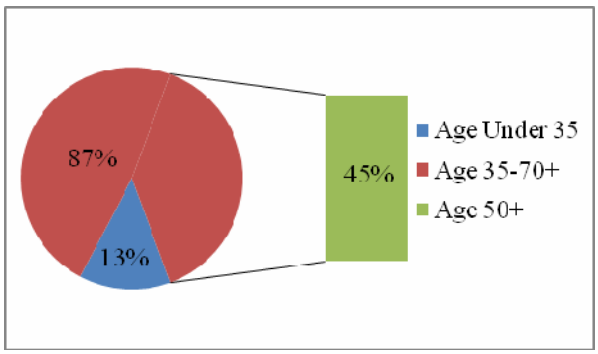

Figure 1: Workforce profile on the number of employees based on age classification in the Science and Engineering occupation across all NASA Centers.

Results and Discussions: A solid and robust plan to invest in education is critical to the sustainability and continuation of lunar and space exploration. Investing in education and community outreach programs invests in the innovation of the future workforce. The space-age technologies developed by NASA and its global network fuels the economy through alternative applications or spinoffs which gives the competitive edge America needs to sustain in its economic growth among international partners. By investing in the aforementioned activities, it ensures that America continues its leadership role amongst international partners in the areas of space and lunar exploration.

References:

[1] M. McCann. (2009). *NASA Workforce Profile*. Retrieved September 12, 2009, from NASAPeople Office of Human Capital Management http://nasapeople.nasa.gov/workforce/default.htm.