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SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
Enabling the Future - Developing the Space Workforce (5)

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DEVELOPING THE FUTURE SPACE WORKFORCE: THE CASE FOR SOUTH KOREA

Abstract

In November 2013, South Korea announced a national space program which outlined the nation's space activities up to 2040. The new space program, along with a vision and a set of ambitious goals, laid out some of the major space missions to be carried out by the nation in the coming decades. This includes the development of an indigenous space launcher or KSLV-II, and a lunar orbiter/lander mission by 2020. One of the major challenges facing the new program, as identified by the government, is the lack of adequate workforce. An analysis has shown that in order to implement the future missions, 4,800 skilled workforce would be required in the space sector by 2020, a considerable increase from the current level of 2,200. Much effort would be required in achieving this goal; manpower shortage has been a long-standing issue in Korea's space arena due to the increasing size of its space program and, in the past few years, worsened by a government regulation, which imposed limit on the size of KARI employee. As much as the quantity of the workforce is at issue, a greater challenge lies in assuring the quality of the future workforce. An analysis has shown that, while the number of students graduating from the relevant science and engineering departments well exceeds the number in need by the space sector, a serious mismatch exists in the job market, largely because the fresh graduates lack the relevant skills and knowledge requested by the employers in the space sector. Even at aerospace engineering departments, it is not easy to find a customized curriculum designed to train space engineers. This is understandable considering the small job market the space sector has hitherto provided, and the fact that only a limited number of professionals in the teaching positions have actual work experience in the space field, able to teach practical skills needed by field engineers. In order to overcome this situation, the government is initiating a program designed to foster a new generation of space cadets. The effort includes the student competitions in cansat/cubesat and sounding rocket; a training program linked to the new small satellite development program; the expansion of National Space Lab program in support of the young researchers at university/industry labs; and the setting up of a space workforce education center. While some of the initiatives have already started, others are underway.