

IAF SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)  
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SPACE FOR BUSINESS VS SPACE FOR SCIENCES

**Abstract**

Our world is dependant upon a number of domains for the activation and operationalisation of the global supply chain. But it would be argued that the Space domain is the most unique and complex of them all. It not only requires an extremely high level of rigour, but also a coalesced combination of specialists, multi- and inter-disciplinary set of skillsets and resources.

The two historic moments, Yuri Gagarin's being the first human in Space (1961) and Neil Armstrong setting humankind onto another celestial body (1969), may have overshadowed the difficulties in endeavours in Space, but the Space Shuttle Columbia Disaster (2003) and the repetitive launch scrubs of NASA's Space Launch System (SLS) have definitely shone a light on the complexities.

The World Economic Forum, as well as a number of other outlets, are currently reporting a global shortage of resources and increasing skillset mismatches, however not solely directed at the Space domain. Most of this trend is due to a lack of emphasis placed on Science, Technology, Engineering and Mathematics (STEM) opportunities. Regardless of the domain in which the world operates, STEM forms the underpinning skillset, as it provides for the platform for Continuous Improvement (CI) and Research and Development (RD) initiatives.

Business-related skills could be argued as the opposing front to STEM, in the sense that these skills would be less about "pushing the dial" and more about "growth and sales". Whilst it is important that both aspects operate in a coalesced manner, the attractiveness of retaining business-related skills may be at the detriment of retaining STEM skillsets and resources. A dilemma, that may do more damage than good for the Space workforce.

This paper looks to perform a bottom-up survey, review and analysis into whether Space as a business domain is over-emphasised than Space as a science domain (including arts, humanities, engineering, technology, life sciences, etc).

Analysing educational trends over the past two decades, discussions with key educators (STEM and Business) across disciplines that interface with the Space domain, grass roots discussions with students across Primary, Secondary and Tertiary educational institutions coalesced with input from established individuals form the approach to conducting this analysis and forming an approach for re-developing the Space Workforce, as a model for other domains to follow.