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INVESTIGATING THE EXPECTATIONS OF THE SPACE TECHNOLOGY STAKEHOLDERS REGARDING SPACE EDUCATION AT POLISH UNIVERSITIES

Abstract

In the rapidly evolving space industry, the preparation of skilled undergraduates is crucial. However, there is a noticeable research gap regarding the expectations of space technology stakeholders for space education, particularly in terms of industry involvement in the development of educational programs. This gap is significant given the high costs and complexities involved in training a skilled space industry workforce. Addressing this, the current paper, primarily aimed at university representatives and space industry stakeholders, seeks to bridge this gap by focusing on the alignment of undergraduate space education with industry expectations, particularly in the context of Polish universities.

The paper presents findings from qualitative research conducted with space technology stakeholders as part of the author's Bachelor thesis. Data was collected through 25 in-depth interviews (IDIs) with representatives of private and public sector institutions. The research focuses on expectations for space education at Polish universities, including curriculum design, learning outcomes, and practical skills that students should acquire to be industry-ready upon graduation. It aims to investigate the skills and competencies that space technology companies seek in graduates. The study evaluates stakeholders' awareness and perceptions of the quality of space education programs at Polish universities. It questions whether specialized programs or supplementary subjects are sufficient for preparing students for the space industry. Additionally, it investigates the level of industry involvement in curriculum development and explores how this collaboration could enhance the quality of space education.

This research has resulted in a set of evidence-based recommendations for curriculum designers of space-related degree programs. The recommendations are informed by the industry perspective and are designed to ensure that graduates meet the evolving needs of the space sector. The paper emphasizes the importance of university-industry collaboration in designing educational programs that are innovative and practical. It argues for curricula that are not only academically rigorous, but also have real-world relevance, equipping students with the skills necessary to make an immediate contribution to the space industry. The insights and recommendations provided, based on the space technology stakeholders' experience, offer valuable guidance to universities worldwide on how to improve the quality and relevance of their space education programs. They encourage universities to consider how they have developed the space education programs they offer and suggest that they review their academic assumptions with space industry representatives.