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A SYSTEMS ENGINEERING FRAMEWORK FOR SPACE SECTOR EDUCATION

Abstract

In this paper we present a framework for successful implementation of systems engineering methods to Space education. Such framework is based on holistic approach to educational course and is built upon multidisciplinary approach to education. The approach has been tested on unique course entitled Space Sector Course held at Skolkovo Institute of Science and Technology (Skoltech). Such course unites the core Space sector's actors, providing a platform for students to capture the entire industrial sector as a whole system with its internal interactions and exchanged resources. The proposed framework is a universal educational platform providing the opportunity to understand the Space sector's structure based on system architecture/system engineering principles applied to Space industry. We advocate that the proposed approach could be used in variety of industries in order to get the answers on the questions "who are the main stakeholders in this sector?", "how the profit is achieved in this sector?", "which resource is critical for each stakeholder and how the process of resources' exchange is organized?", and "who are the most successful commercially actors in this sector?". Ultimately, using a proposed approach, the students acquire a holistic knowledge about industrial sector and an understanding of opportunities for entrepreneurial activities in it.