

47th SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)

Knowledge Management and Collaboration in Space Activities (2)

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KNOWLEDGE MANAGEMENT AND KNOW-HOW TRANSFER IN THE SPACE INDUSTRY. AN
EFFECTIVE WAY TO ADAPT TO THE EMPLOYMENT PATTERNS OF THE NEXT GENERATION

Abstract

Space industry, and especially the new generation of space professionals, is facing an issue related to the age gap: technology transfer and knowledge management. The current employment trends, where individuals move frequently between companies and projects over the course of their careers, is creating knowledge management challenges.

Knowledge management issues relating to employment movement patterns need to be addressed. Using new software tools and strengthening relationships between professionals at all levels can assist in sharing and retaining knowledge. This paper investigates problems occurring with knowledge retention and sharing in the space industry and recommends methods and tools that can be applied for improvement, including ways to increase involvement between senior and young professionals.

The availability of new technologies and software tools makes it easier to address this problem, but significant capability remains embedded in human capital. In previous generations, space-related professionals used to stay in the same company long term, in many occasions for the entirety of their professional career. Nowadays, the situation is drastically changing. While space projects typically last several years, in many occasions the core team workers do not stay with the project for the duration.

Space projects are characterized by very long lead times, in comparison with other industries. This fact creates the need to explore new software tools for effective knowledge management, sharing, and storage. Creating user-friendly repositories would allow professionals to access experts and information that remain out of reach. This tool would be useful to share the findings from R&D teams within companies and engineers working on regular projects. Lack of communication between teams can easily occur in big companies and in many cases it suppresses the mutual benefit of shared knowledge for R&D teams.

Company management should foster a work environment between professionals at all levels of experience. One example to make them work closer and foment team spirit would be to introduce inverse mentoring programs.

On the other hand, prioritizing the development and long-term training of young professionals in project management strategy and focusing on a more continuous hiring process would benefit industry and result in a more effective know-how transfer.

This paper is a continuation of the discussions held as part of the Space Generation Congress 2013. It supports the Congress' outcomes with examples of positive effect induced by implementation of above described systems and practices and provides comparison between space industry and other industries suffering the same problems.