

49th IAA 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 ISO 9001:2015 IN ESA

**Abstract**

ISO 9001 is the quality management system standard helping the organizations and companies to manage the business effectively, to put in place the proven best practices and provide the foundation for better customer satisfaction, staff motivation and continual improvement. ISO 9001 started around 1987 with a second and major revision around the year 2000 with respect to process-oriented management and continuous improvement. The 2015 revision addresses specifically organizational knowledge and its management, recognizing the need of reducing knowledge losses and to encourage knowledge development. The ISO 9001:2015 version was published in September 2015 and will supersede the current ISO 9001:2008 version in September 2018.

The inclusion of Knowledge Management (KM) in the ISO 9001:2015 marks a huge change within the world of KM. For the first time, one of the global business standards explicitly mentions knowledge as a resource, and specifies expectations for the management of that resource. This provides a long-awaited level of recognition for KM which could be a game-changer.

The following requirements for the organizational knowledge are specified: • The organization has to determine the knowledge which is required for conducting the processes and for reaching conformity of products and services. • The knowledge has to be maintained and transferred at an adequate level. • To account for new requirements/trends the organization has to assess its current knowledge and determine how the missing knowledge can be acquired. This paper will perform an analysis of these new ISO requirements, identify possible KM instruments for their fulfillment and assess the status of its implementation in ESA concluding with an overview of appropriate evaluation methods.

In particular, the organizational knowledge requirements will be then compared with the building blocks of the knowledge cycle introduced by Gilbert Probst in 1997. Out of the list of the possible instruments for the various building blocks, the tools and methods entirely or partially implemented will be identified. The implementation of these knowledge activities includes risks which will be analyzed individually to identify where special attention should be paid. The analysis of the inherent difficulties connected with the implementation of the methods and tools is an essential part of the paper.

The final step of the implementation of the KM requirements into the standard is the evaluation of the impact of KM activities to the organization by means of the Key Performance Indicators, benchmarking or models such as Knowledge Management Maturity Model or audit procedures.