57th IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE ACTIVITIES (D5)
Emerging trends of knowledge management in organizations (2)

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KNOWLEDGE MAPPING AS AN ANTICIPATION TOOL TO ENHANCE CNES SKILLS AND PROMOTE INNOVATION

Abstract

The space sector is a vector for economic growth, industrial competitiveness and the development of a new ecosystem, while remaining a sector of strategic independence for states. At French level in particular, this means maintaining the scientific excellence of the space sector and its influence, with a concern for the sustainable development of space. It is in this context that we present the foundations and initial results of an approach designed to maintain CNES's skills and put them at the service of the development of its ecosystem through research and the production of innovations. This approach is based on the implementation of a knowledge construction engine – Gargantext –, developed by the Paris and Ile- de-France Complex Systems Institute (ISC/PIF). Unlike a search engine or chatbot, which seeks to answer a question, Gargantext acts as an interrogator for human experts, who are invited to produce an intelligible terminology map from an initial map produced by the software. This "inversion" of the usual pattern makes it possible to better understand the existing situation in a given field, and even to anticipate future trends. Using a case study on the sustainable use of space and the security of space operations, we will show how Gargantext can be used to identify CNES's areas of expertise and to compare them with those of the space ecosystem. Going a step further, we will show how it is possible to predict changes in these areas of expertise based on possible innovations in this ecosystem.