52nd IAA SYMPOSIUM ON SAFETY, QUALITY AND KNOWLEDGE MANAGEMENT IN SPACE
ACTIVITIES (D5)
Knowledge management for space activities in the digital era (2)

Author: Dr. Daniel Galarreta
Centre National d'Etudes Spatiales (CNES), France

FOR A KNOWLEDGE CENTRE AS AN ECOSYSTEM

Abstract

In his paper "From libraries to ESA knowledge and learning centres: key features and status of implementation" (IAC 2018 Bremen), G. Baldesi observed that "ESA libraries need to evolve and move towards learning and knowledge centres aiming at enhancing the access to resources". Such a movement is also in CNES.

Several definitions exist. Some presenting a knowledge centre as "a community or Internet-based system designed to help people share information remotely", or as a physical, open and transparent forum where all members of the company access, share and exploit company's knowledge in order to provide a much more effective and efficient service to the entire company – including technology support (after ESA definition).

In this paper we will define a Knowledge Center as an open ecosystem of data.

Instead of considering that a Knowledge Centre is a physical place, we propose to consider that it is a complex network constituted by physical - and environmental - components and individuals that interact with each other and with at least one of these components. Interactions between individuals and components, as well as interactions between individuals and between components, are regulated by cultural norms in the first case, organizational norms in the second and technical norms in the third. In the end, this complex network is an ecosystem Physical knowledge centres correspond to the largest of the physic and environmental components of this ecosystem.

This ecosystem must be open by nature to be interconnected with other ecosystems, for example the HAL system of open archives in France or OpenAire in Europe, or commercial scientific databases, such as STN or Factiva, or other Knowledge Centres such as such as those of ESA.

Operating in an ecosystem that is by nature made up of different communities with different representation systems, leads to a redefinition of notions such as information, knowledge and data. For a homogeneous community this seems self-evident, but this is no longer the case in an ecosystem.

We will argue that the data are similar to specific knowledge. And in this case, the problem that we will have to solve within the Knowledge Centre - as an ecosystem - will be that of sharing them. We will explain what is "sharing" in such an ecosystem.

We will give concrete examples of how these sharing can be achieved and give hints about the implementation of such a project in CNES.