

SPACE EDUCATION AND OUTREACH SYMPOSIUM (E1)
New Worlds - Innovative Space Education and Outreach (7)

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THE ULISSE CONTRIBUTION TO EDUCATION AND OUTREACH

Abstract

When properly preserved, scientific data frequently is further re-used even in scientific or applicative domains that could be very distant from the original one.

ULISSE (USOCs Knowledge Integration and dissemination for Space Science Experimentation) is a Seventh Framework research project, funded by the European Commission, aimed at the preservation and exploitation of the scientific data produced by European space experiments on board the ISS and other platforms.

ULISSE has developed a number of tools to exploit the use of the information for the broad range of disciplines being represented in the European Columbus experiment facilities on ISS. The tools have been implemented on a platform consistent with the distributed ground infrastructure architecture of the European ground segment for the ISS scientific operations.

In order to support and improve the utilisation of the experiment data archives, metadata and knowledge about the experiments need to be collected, represented and preserved allowing access by the community for further scientific uses. To this purpose, the ULISSE platform includes a Knowledge Base (KB) with the relevant description of scientific data (metadata) and of the operative and scientific context in which the data was generated. Knowledge representation is based on Topic Maps technology (ISO/IEC 13250:2003). The main function of KB is supporting semantic searching capabilities; however, ULISSE is pursuing the exploitation of this relevant resource also for education through:

- Creation of a scientific ontology to structure information about different scientific and technological domains
- Implementation of services to exploit information for education
- Access to resources (lessons, videos, data, ...)

- Definition of explanatory paths linking the available information in the KB

Moreover, ULISSE has developed a collaborative portal aimed at:

- disseminating news and knowledge about space research
- stimulate the interest of the general public in space research, especially by explaining its applications and results, and its links with the everyday lives of European citizens
- Increase the involvement of the scientific community in sharing knowledge and data for outreach

The ULISSE team has also published the book “Laboratory Science with Space Data”, edited by Springer, and other dissemination materials (posters, flyers) with the aim of encouraging universities in taking an interest in space field. These ULISSE experiences in support of outreach and education will be described together with further perspectives.