A Prototype of the digital platform for knowlede management in fusion appications based on the iter project [[1]](#footnote-1)\*)

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The ITER reactor project is one of the most complex and promising examples of the implementation of international efforts in the field of controlled thermonuclear fusion, and it includes advanced technologies in various scientific fields united by joint field of fusion research. The authors of the work on the basis of the developed Digital Knowledge Management Platform are implementing a prototype of a knowledge base with information on the ITER project. Various technological breakdowns of the ITER plant into subsystems, the content and structure of various databases of the international ITER project were analyzed to create the knowledge base structure and aggregation of the project data. Methodology and approaches of the ITER organization towards collection, storage and management of project knowledge, as well as the Unified industry recommendations and guidelines on preservation of critical nuclear knowledge in Rosatom of were analyzed to create the functional and technical requirements and implementation concept the knowledge base for fusion applications based on the ITER project.

This paper presents a prototype of the Digital Platform applied to the ITER project taking into account the technological breakdowns of the experimental plant, the components of the systems supplied by Russian Federation, characteristic features of the design documentation of the international project. The functional and technical requirements for the Digital Knowledge Management Platform were prepared taking into account the ITER project needs. The prototype of the system implements a knowledge base on the technological and diagnostic subsystems supplied by Russian Federation to the ITER plant, ability to process complex search queries on the knowledge base content taking into account specificity of the ITER project, an approach to form a competency matrix and the expert community in the field of fusion. Proposed modular approach of the Platform structure will allow to expand and integrate content with other knowledge bases at the next stages of the Platform implementation using the application programming interface, i.e. the publication activity of scientific teams in the fusion research.

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1. \*) [abstracts of this report in Russian](http://www.fpl.gpi.ru/Zvenigorod/XLVIII/E/ru/HY-Semenov.docx) [↑](#footnote-ref-1)