ITER REMOTE PARTICIPATION CENTER DESIGN STATUS [[1]](#footnote-1)\*)

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ITER is one of the most complex and ambitious energy projects, which is being implemented with the participation of seven equal partners and more than thirty participating countries. The agreement on the construction and use of the ITER reactor provides access to the results of experiments for all project participants. In this regard, the ITER data acquisition system includes the possibility of remote access and remote processing of scientific data, both after (offline) and in the process (online) of the experiment take place. The Russian Federation, as one of the project participants, takes an active part in this work. At the moment, three project participants (Russia, Japan, USA) are already connected on a permanent basis to a current state of ITER data acquisition system, two more participants (the European Union and the Republic of Korea) are working on this.

 "Project Center ITER" (RFDA) together with the IO (International Organization) ITER regularly continue to work on the development of technologies and principles of interaction between the IO ITER and other project participants. In the work, data transfer processes and information security issues were studied when connecting to the internal networks of the ITER IO. As part of the study of the data transmission process, testing of communication with the ITER IO was carried out using equipment identical to that installed in the ITER MO. As a result of this testing, the readiness of the remote participation center for full-fledged work was confirmed. In addition, various tools for remote participation planned for use within the ITER project were tested. Tested the mechanics of sharing operator screens, viewing archived data, etc. Various solutions for streaming video within closed ITER networks were tested both from ITER side to RFDA and From RFDA to ITER IO.

The Remote Participation Center in the Russian Federation, located on the site of the Project Center ITER (Troitsk), is the most advanced among all partners in terms of available functionality. It provides a direct connection to the process data of the ITER site.

As a result of the work, a roadmap is being formed for participation in the experimental program of all project partners in the future. Common requirements for all participants to connect remote centers to ITER are formed. The results and technologies obtained within the framework of these works will be used to implement a project to create a hardware and infrastructure platform for the information and communication space of the fusion research in the Russian Federation.

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