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Tier-1 CMS at JINR: Past, Present and Future

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The Tier-1 centre for CMS at JINR is a high-tech platform for computing systems and systems of long-term data storage with high concentration of the network and server equipment. Work on this centre was carried out in the framework of the project "Creation of the automated system of data processing of experiments at the Large Hadron Collider (LHC) of the Tier1 level and provision of grid-services for distributed analysis of these data" within the Federal target program (FTP) of the Ministry of Education and Science of the Russian Federation "Research and development on the priority directions of developing the scientific-technological complex of Russia for 2007-2013". On 28 September, 2012, at the meeting of the Supervisory Board of the WLCG project a plan of creating a Tier-1 center in Russia was accepted.

In early 2015, a full-scale WLCG site of the Tier1 level for CMS was launched at LIT, JINR. The importance of creating and maintaining such a centre is determined by several factors.

First of all, the need for the development, modernization and expansion of computational performance and data storage systems of the Tier-1 centre is dictated by the research program of the CMS experiment in which JINR physicists are actively involved in the framework of the RDMS CMS collaboration.

Another important thing is that in the course of work on the creation and exploitation of Tier-1 at JINR, an invaluable experience was gained that is already in demand and will be needed in the future to design, build and subsequently exploit the informational –computational centre for experiments within the NICA project.

An overview of the JINR Tier-1 centre for the CMS experiment at the LHC is given. Special emphasis is placed on the results of the Tier-1 operation and future plans.

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