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Progress of EISCAT_3D Competence Center

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The design of the next generation incoherent scatter radar system, EISCAT_3D, opens up opportunities for physicists to explore many new research fields. On the other hand, it also introduces significant challenges in handling large-scale experimental data which will be massively generated at great speeds and volumes. This challenge is typically referred to as a big data problem and requires solutions from beyond the capabilities of conventional database technologies. The first objective of the project is to build common e-Infrastructure to meet the requirements of a big scientific data system such as EISCAT_3D data system.

The work on the design specification has been looked at from a number of aspects such as: Priority Functional Components; Data Searching & Discovery; Data Access; Data Visualisation; Data Storage. There are different technologies at the different stages of the portal, such as dCache, iRods, OpenSearch, LifeRay and different forms of identifiers . We will present the ones chosen and why the suits better for operations and data from an environmental facility like EISCAT_3D. The design specification have been presented it to the EISCAT community and the feedback has been adopted in the portal development environment.

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