

# Data acquisition, processing and streaming for ITER Diagnostics

ITER requires of the order of 50 diagnostic systems with similar rto meet the requirements for machine operation, protection, plasma control and physics studies. The choice of diagnostics fast controllers which are very similar to those used for LLRF control is based on guidelines and catalogues published by the ITER Organization (IO). Diagnostics use case examples have been developed to guide the domestic agencies in their development. They cover imaging diagnostics with fast, high resolution cameras, neutron diagnostics and diagnostics based on GS/s ADCs such as microwave reflectometry and Thomson scattering. Their implementations cover major parts of the diagnostic plant system I & C such as multi-channel high performance data and image acquisition, data processing as well as real-time and data archiving aspects. In this paper, the current status and achievements implementation and documentation for the use case examples are presented.

## Summary

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Formfactors used in these implementation are ATCA, MTCA.4 and PXIe.

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