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Current Status of the 4GSR Control System

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A new Fourth Generation Synchrotron Radiation source (4GSR) is scheduled to be constructed in Ochang, South Korea. Serving as a critical facility for large-scale scientific experiments and research, the technical design review of the 4GSR is currently underway and anticipated to be completed by mid-2024. The control system for the 4GSR accelerator is of paramount importance for ensuring stability and reliability in facilitating extensive scientific endeavors. It is structured as a distributed control system based on EPICS (Experimental Physics and Industrial Control System), comprising operator interfaces, networking, and hardware interfaces. Operator interfaces are controlled via Graphical User Interfaces (GUIs) on workstations running on Linux or Windows platforms, positioned flexibly throughout the facility's network. EPICS Input/Output Controllers (IOCs) provide direct control and I/O interfaces for subsystems within the accelerator, enabling users to directly control and monitor these subsystems. The group responsible for implementing 4GSR control aims to design a system embodying high interoperability, availability, stability, usability, scalability, and flexibility. Consequently, ongoing hardware and software development efforts are being pursued, with plans to report on the system's design progress and discuss future initiatives.

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