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SLS 2.0 Controls and Science IT Sub Project Status Update

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The Swiss Light Source upgrade project (called SLS 2.0) started with the focus on the diffraction-limited storage-rings (DLSRs) for a fourth generation synchrotron light source. The main expected improvements from the machine upgrade is significantly reduced electron beam's horizontal emittance, thus higher proton beam brilliance for hard x-ray beamlines and better photon beam coherent fraction for insertion-devices. Along with recent research and development on photon detectors and data acquisition, our flagship beamlines are looking forward to potentially higher resolution and faster experiment throughput. This talk will outline the scope of the SLS 2.0 Controls and Science IT Sub Project; share our challenges and opportunities; as well as our plans and early progresses toward meeting the exponentially increased demands, which include beamline experiment control, data and metadata collection and processing, and computing and storage infrastructure.

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