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New SRF Facility at CERN

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RF requirements for projects such as FCC impose to keep the manufacturing of SRF objects under extremely strict process control to prevent any performance degradation due to surface contamination. In this regard, thin film on copper technology is particularly demanding.

Current SRF facilities at CERN cannot meet these requirements, increasing the risk of defects and of high rejection rates.

A new SRF facility, that is currently being designed, will regroup surface chemistry, thin film deposition and cleanrooms operating under a fully controlled environment.

This facility will house a series of interconnected ISO 4 class cleanrooms dedicated to the preparation of superconducting cavities, adjacent to a large ISO 8 clean hall for the assembly of cryomodules.

The facility will be able to process large multi-cell sputtered cavities and sustain a high throughput even during extended periods of cryomodule assembly, maintenance or repair.

The new SRF infrastructure is expected to be operational by 2029.

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