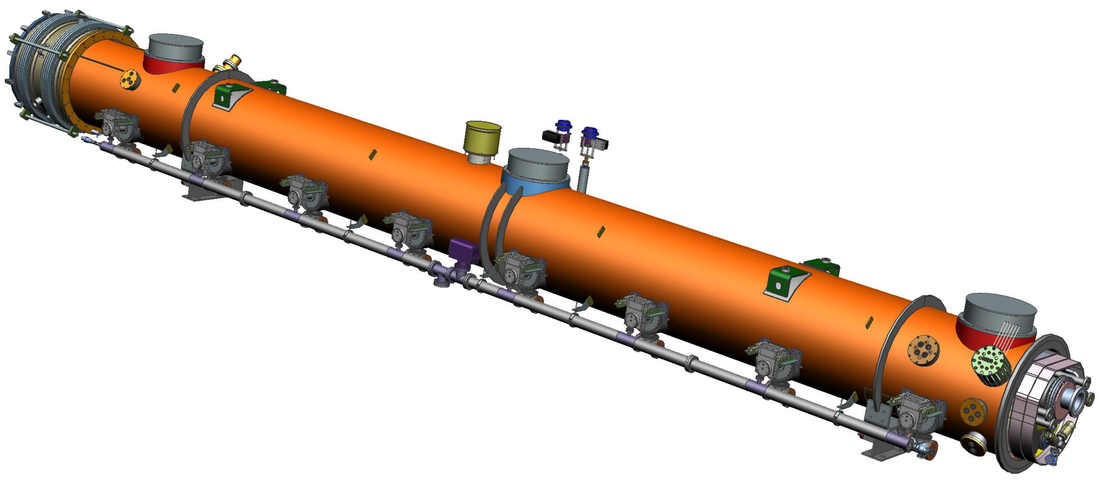
LCLS-II High Energy Cryomodules

FERMILAB-POSTER-20-019-AD-TD

Cryomodule Design

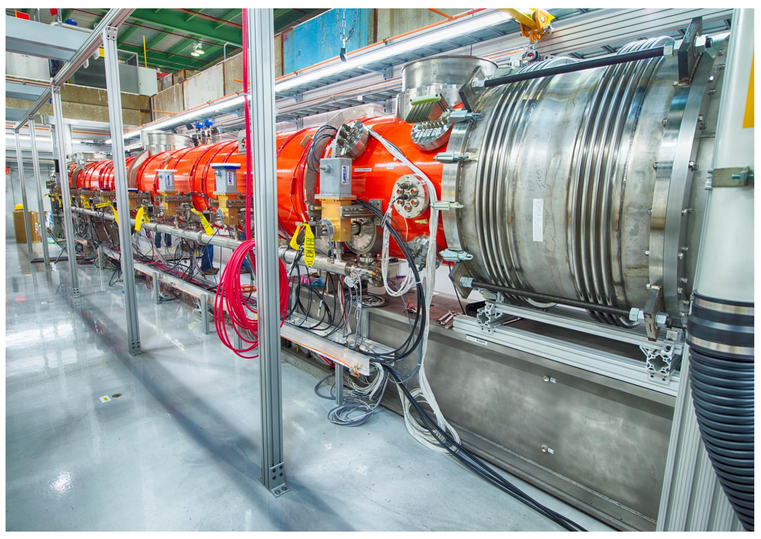
1.3 GHz cryomodules for LCLS-II High Energy (HE) at SLAC will utilize the proven design from LCLS-II. There will be a number of small changes to capture the as-built design for LCLS-II and optimize assembly, but the overall design concept is the same.



Cryomodule design for LCLS-II High Energy

Cryomodule Testing

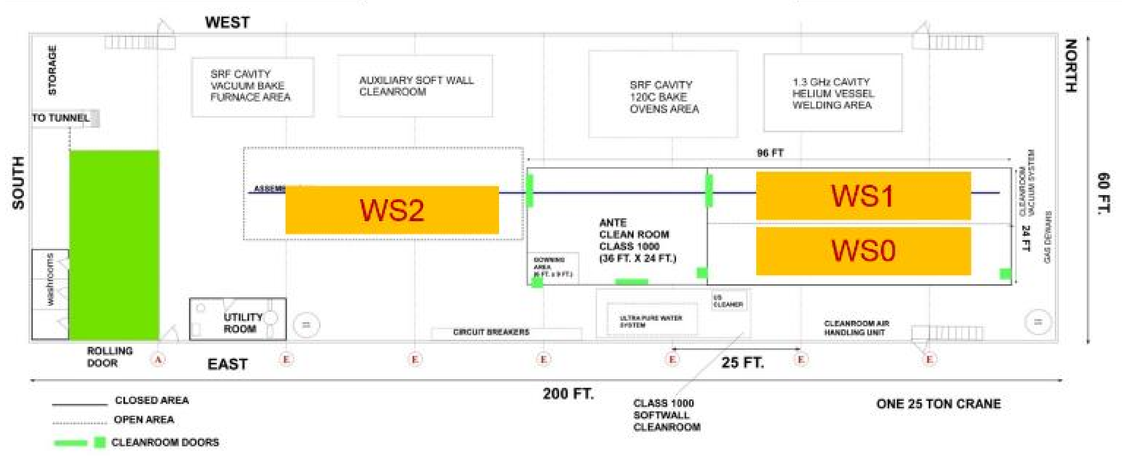
After assembly at workstation 5 is complete, the cryomodule is transported to the cryomodule testing facility (CMTF) and the internals are cooled for testing in the same conditions as the tunnel at SLAC. Testing lasts about one month, and the cryomodule is returned to ICB for preparation to ship to SLAC.

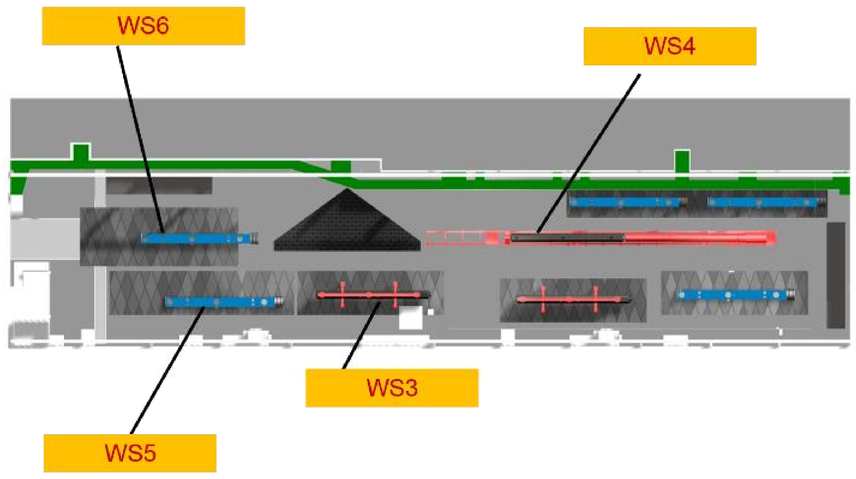


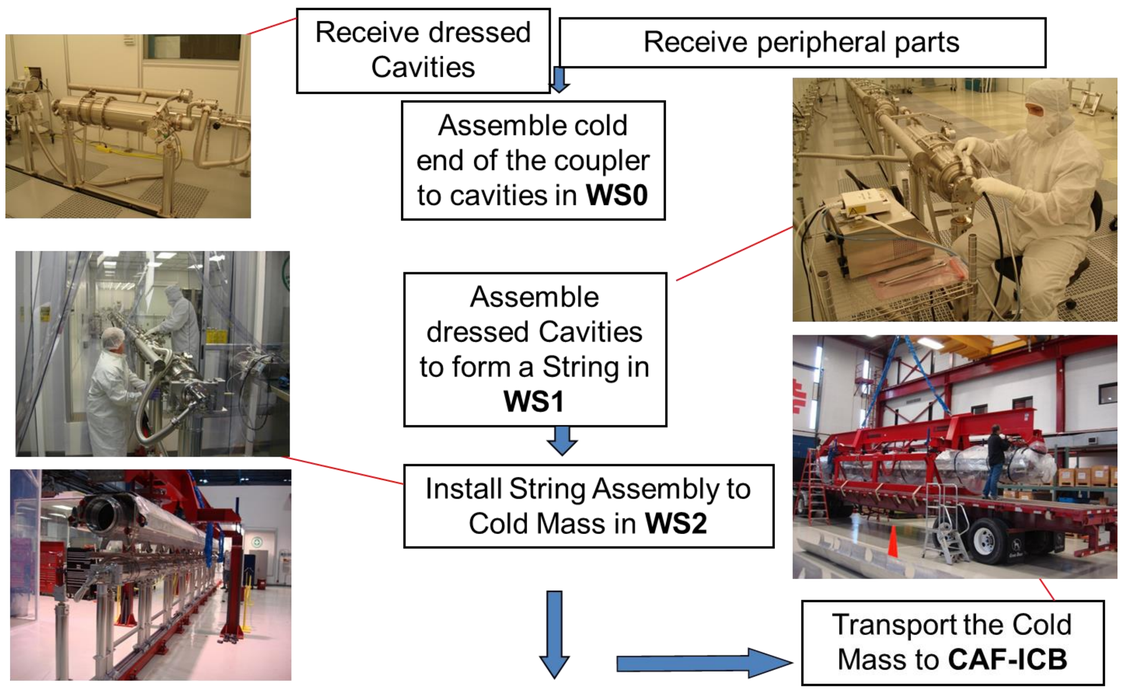
Cryomodule installed at CMTF

Cryomodule Assembly

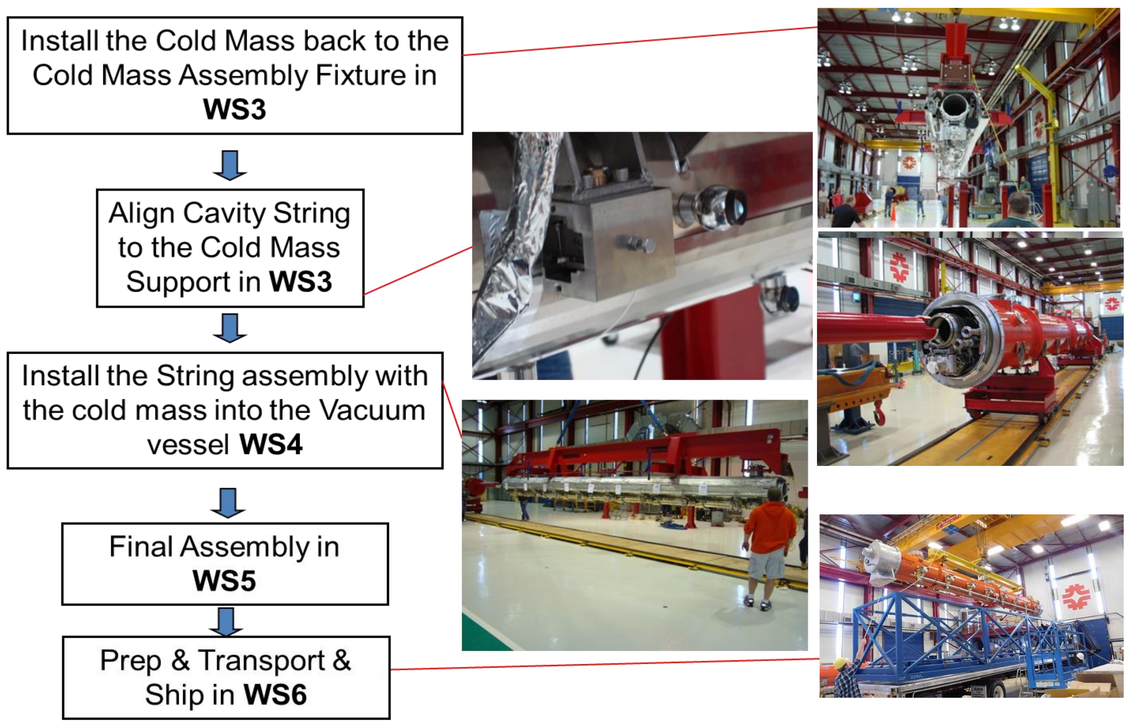
Ten cryomodules will be built by Fermilab for LCLS-II HE. Cryomodules are assembled through an assembly line process consisting of six workstations. These are split into cleanroom cavity string assembly work at MP9 (see left column) and final cryomodule assembly at ICB (see right column). All assembly operations are governed by procedures and travelers to help ensure a high quality cryomodule.







Workflow and assembly floor layout at MP9



Workflow and assembly floor layout at ICB

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