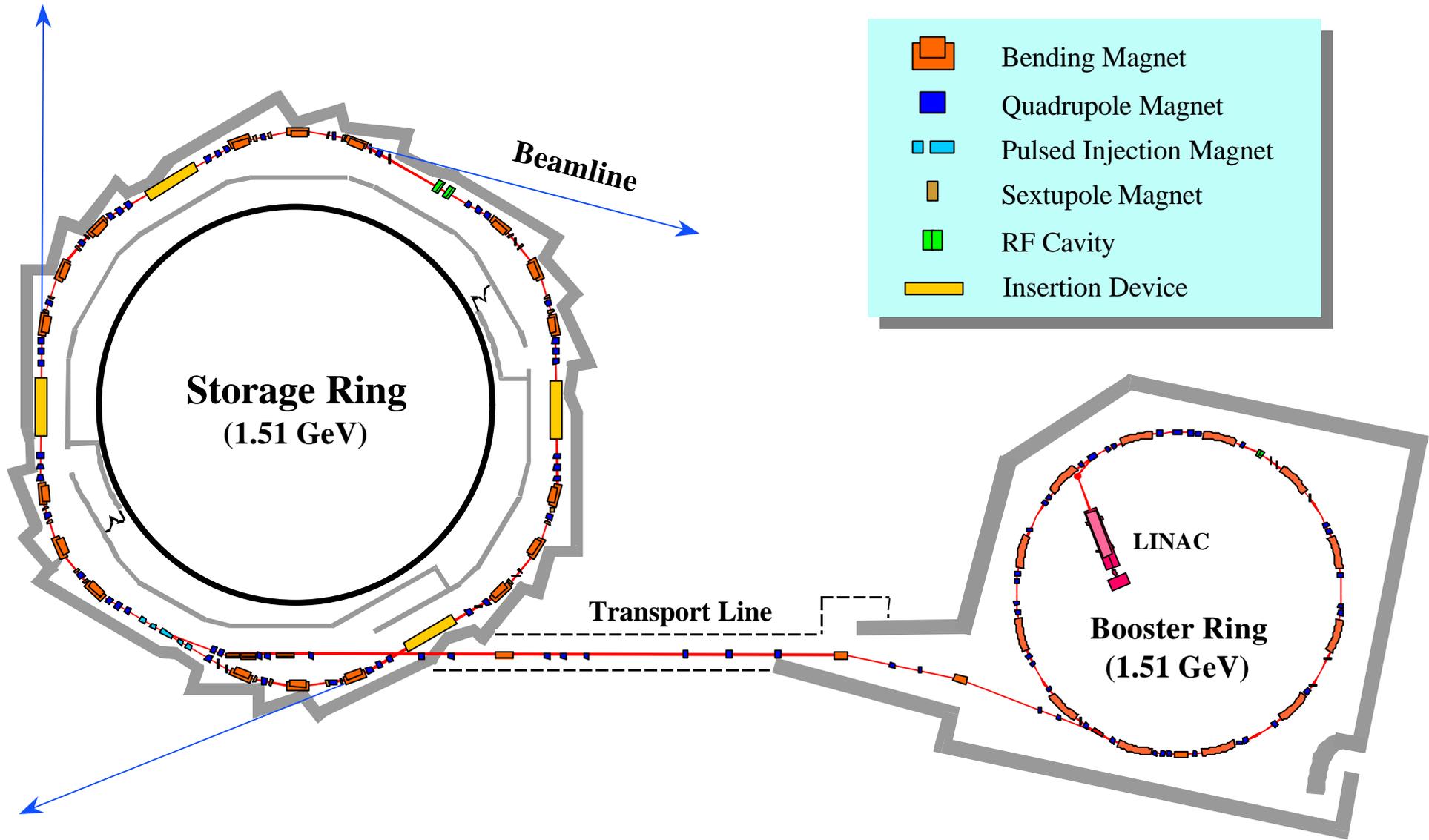


SRRC Accelerator



Storage Ring

Operation

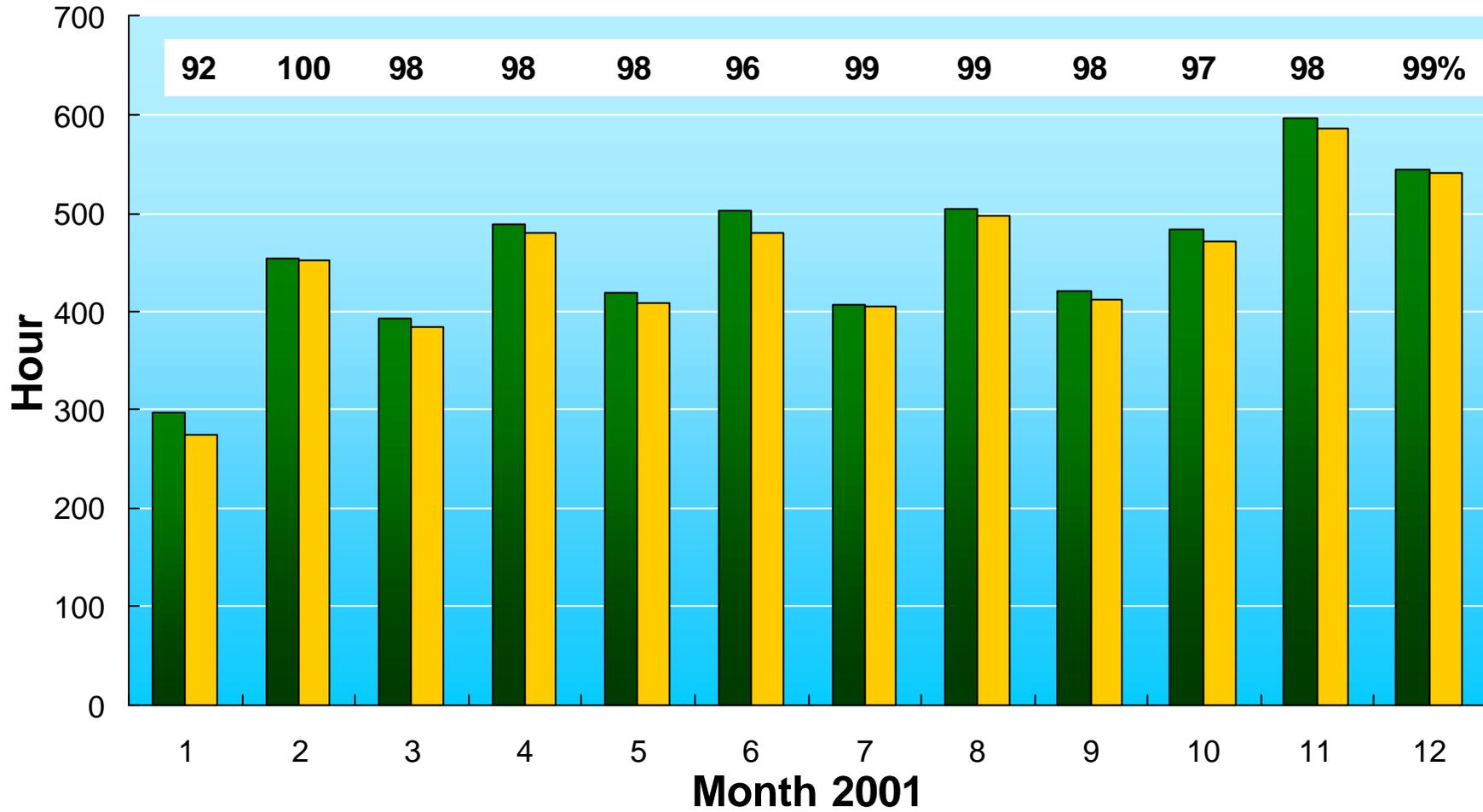
- **Energy:** 1.51 GeV
- **Current:** 200 mA
- **Lifetime:** 8hr @ $s_v=80$ μm
15hr @ $s_v=150$ μm
- **Stability:** ~ 3 μm
- **Drift:** ~ 10 $\mu\text{m}/8$ hr
- **Up-time:** \approx 97%

Major Upgrades

- **Digital longitudinal feedback system for 500 mA**
(2003.3)
- **500 MHz/500 mA SRF project**
(2003.6)
- **22.8 kV electric power system**
(2003.12)

Machine Up-time of User Shifts

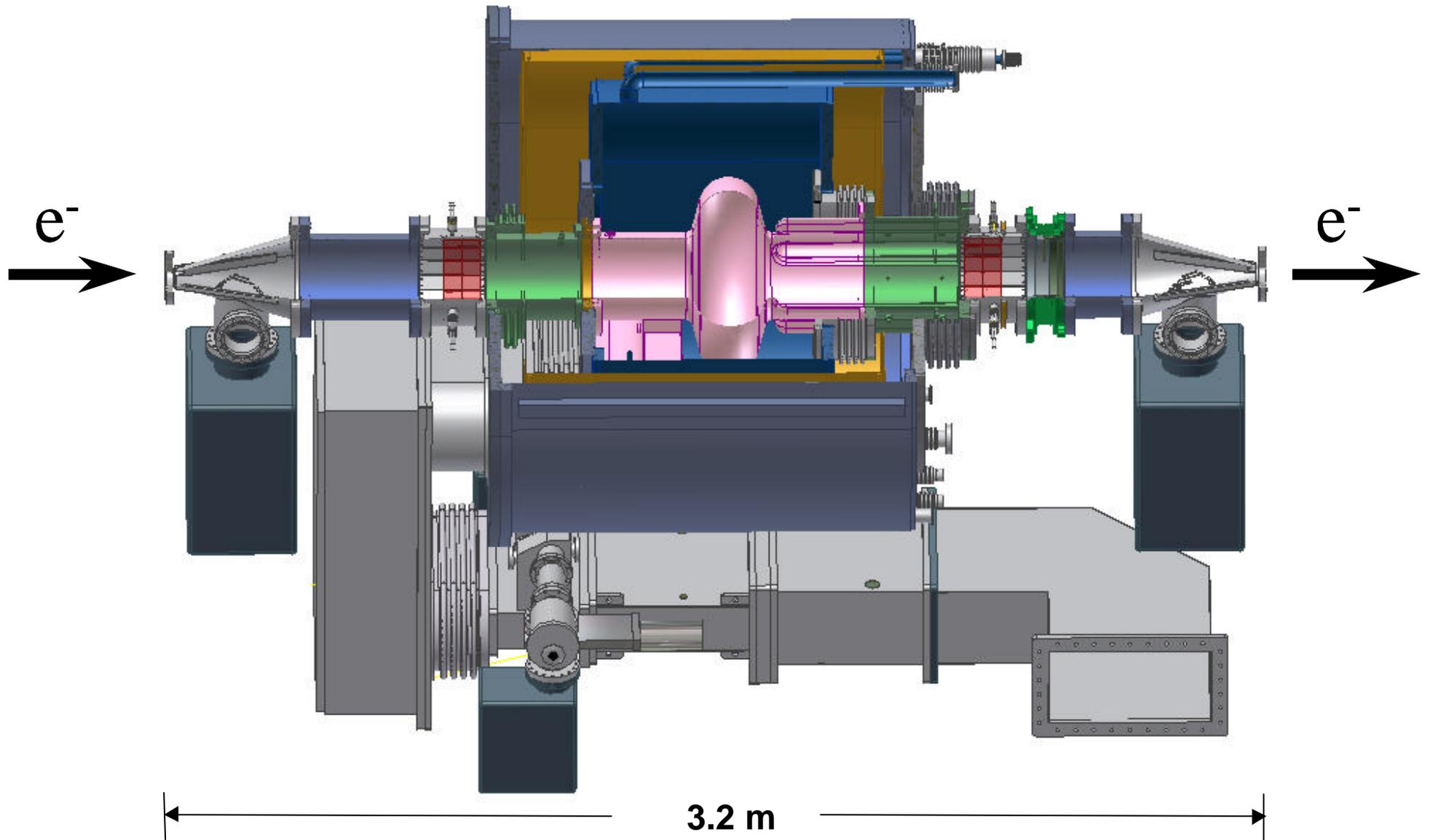
■ scheduled ■ delivered



500 MHz/500 mA SRF Project

- Adopt the state-of-the-art HOM-free Cornell superconducting RF system
- Increase the maximum electron beam current of the storage ring from 240 mA to 500 mA
- Eliminate the beam instabilities caused by the strong HOM of the existing Doris RF cavity

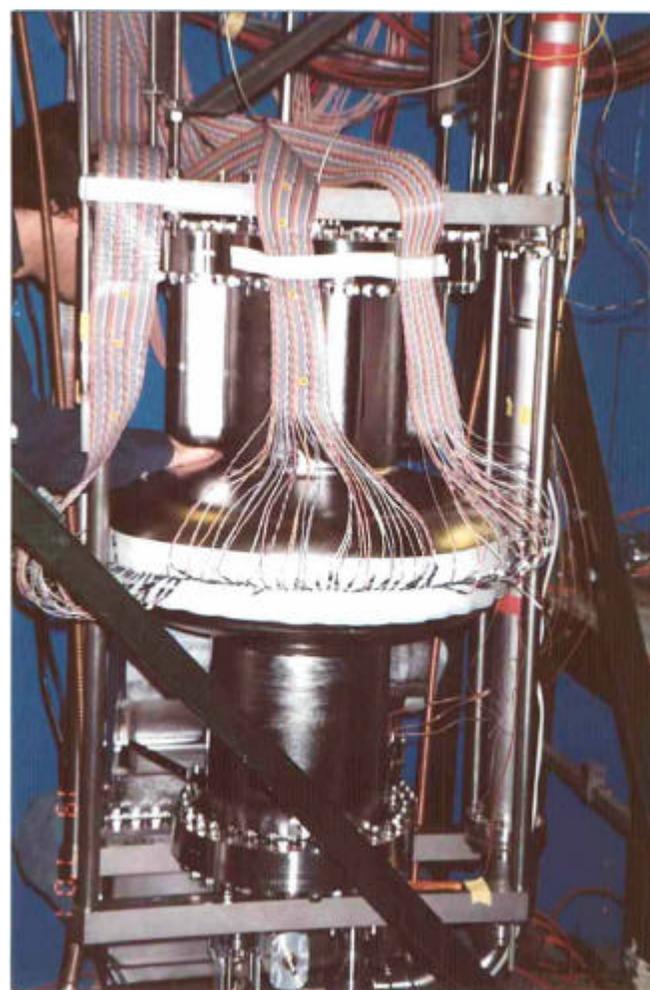
3D Structure of SRRC SRF Cavity



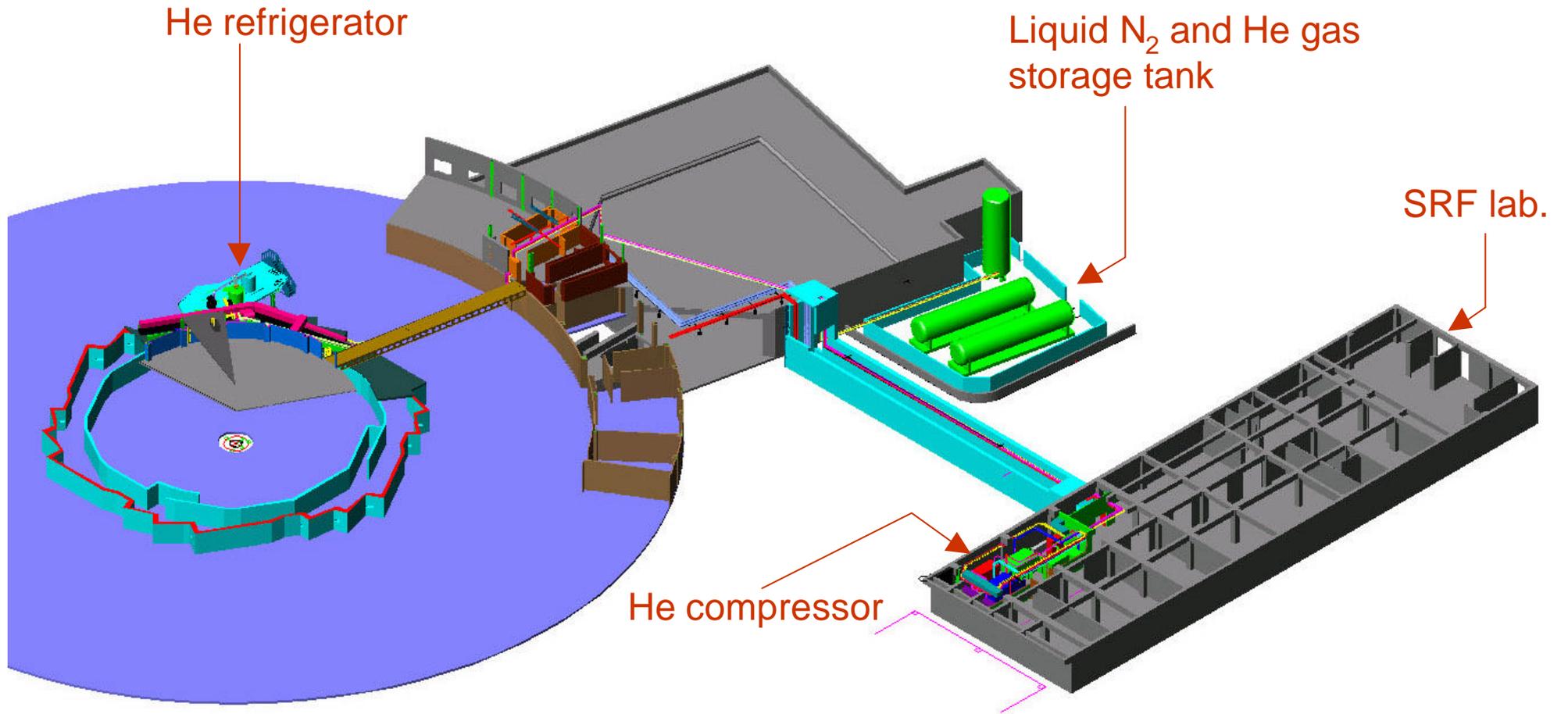
E-beam welded 500 MHz Nb cavities



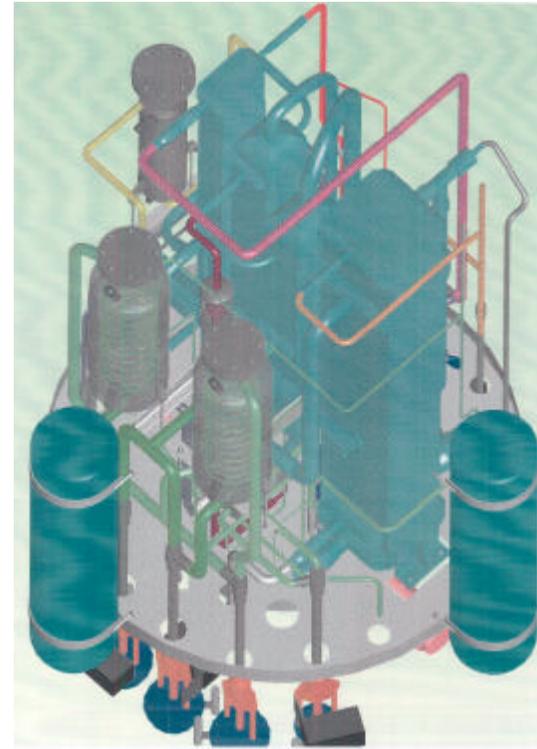
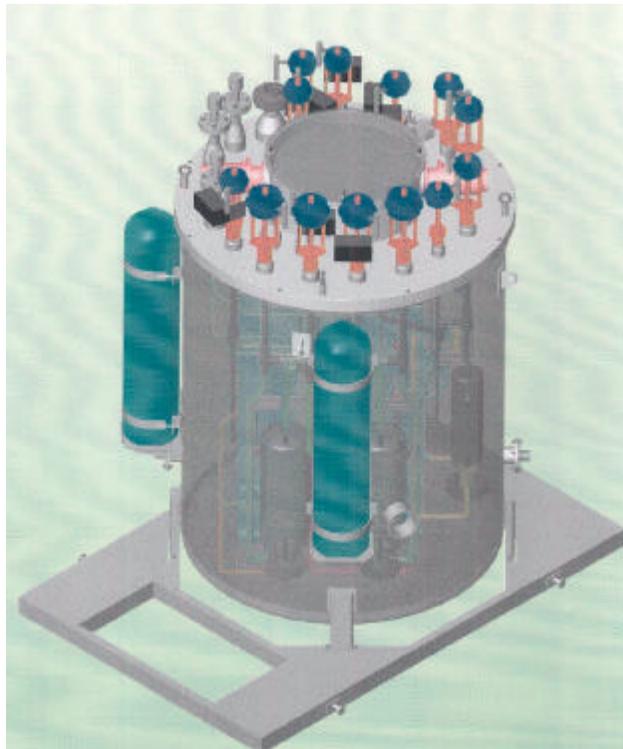
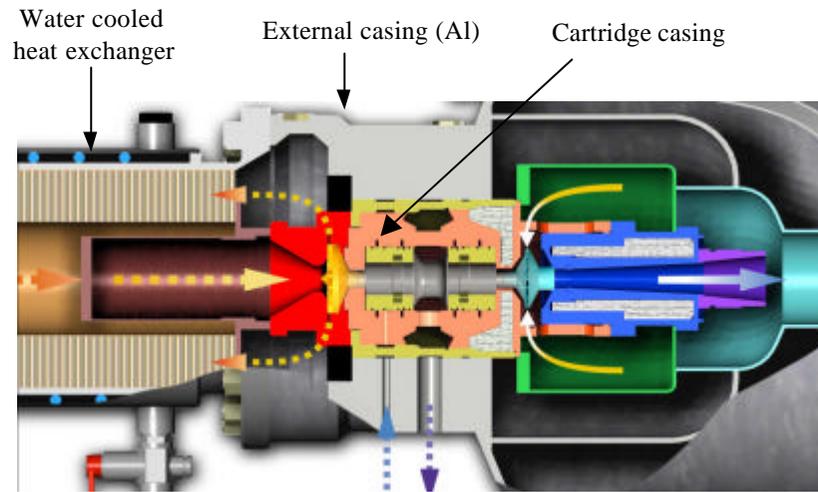
Performance Test of Nb Cavity



Layout of Cryogenic Plant



Helium Refrigerator





Utility Building (II) and Superconducting RF Laboratory
(35,026 Sq. Ft. floor space, Jan. 29, 2002)