

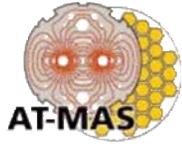
Cable measurement facilities at CERN

SC section of AT-MAS group: ~ 40 persons
(CERN (15), industrial support (25))

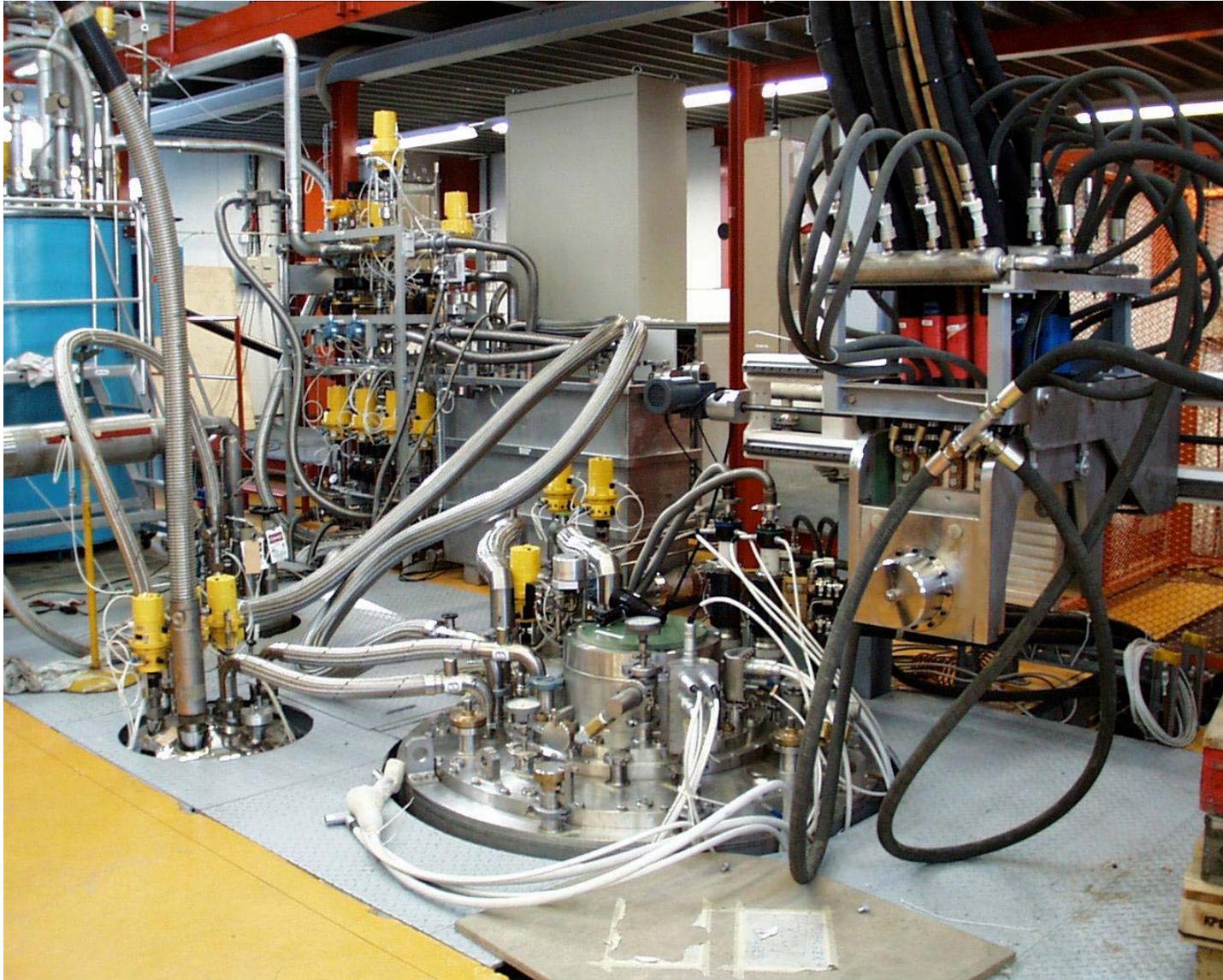
Mandate: quality control of strands and cables for
SC magnets of LHC (~ 1500 billets and ~ 3000
cables per year)

Cryogenic tests: cold box (~ 130 l/hour)

- Cable I_c (FRESCA, 4.2 and 1.9 K, up to 32 kA, 10 T (1.9 K))
- Strand I_c (4 stations, up to 13 T (1.9 K)), 9 samples)
- Strand magnetization (7 samples, 4.2 and 1.9 K, 0-1 T)
- RRR measurement (19 samples per test)
- Contact resistance measurement (8 samples per test)



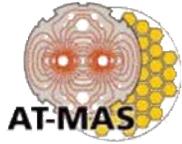
FRESCA setup



09-dec-03

T. Boutboul, AT-MAS/SC

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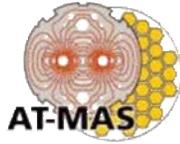
Strand I_c test stations



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Room temperature measurements:

- Dimensional measurements (strands, cables)
- Mechanical tests (sharp bend, spring back)
- Copper to Sc ratio measurement
- SnAg coating layer thickness measurements (coulometry, AAS)
- Strand cross-section examination