Scope of the workshop

- Review the status of the world R&D on superconducting materials and cables for high field magnets (B > 10 T), with particular focus on needs on the NED program
- Review the status of the superconducting materials for transmission line cables for potential use in low field accelerator magnet application.
- Review the capabilities of European laboratories in support of the superconductor R&D
- Identify needs and define directions of development for industry and laboratories

Organization

- The workshop is called by the chairman of the WP1 (Accelerator Magnet technology – AMT) of the HEHIHB/CARE Network
- Location is at Archamps (located 15 km from CERN)
- Proposed duration is 3 days, in March 2004 during week 13 (22 to 26)
- The workshop attendance is by invitation

Invited - EU Industries

- Alstom (LTS – Nb3Sn)
- OKSC (LTS – Nb3Sn)
- EAS (LTS – Nb3Sn, BSSCO)
- EM (LTS – Nb3Sn)
- SMI (LTS – Nb3Sn)
- Nexans (HTS – BSCCO)
- Edison (HTS – BSCCO, YBCO; MgB2)
- Columbus (LTS – MgB2)
- Trithor (HTS)

Invited - EU Laboratories

- Dept. of Appl. Phys., Twente University (A. den Ouden)
- GAP – Geneva University (R. Fluckiger)
- INFN-Milano (G. Volpini) and INFN-Genova (P. Fabbricatore)
- GSI (G. Moritz)
- RAL (E. Baynham)
- FzK (R. Heller)
- CEA-DAPNIA (A. Devred)
- CEA-Cadarache (J. L Duchateau)
- EPFL/CRPP (P. Bruzzone)
- ENEA (L. Petrizzi)
- EFDA (E. Salpietro)
- Durham (D. Hampshire)
- CIEMAT (F. Toral)

Invited - non-EU Collaborators

- NRIM, Tsukuba, Japan, T. Takeuchi (Nb3Al)
- University of Madison-Wisconsin, USA, D. Larbalestier (NbTiTa, Nb3Al, YBCO, MgB2)
- LBNL, Berkeley, USA, S. Gourlay (LARP), R. Scanlan (Nb3Sn, BSCCO)
- FNAL, Batavia, USA, J. Strait (LARP)
- BNL, Upton, USA, P. Wanderer (SIS-200, BSSCO)
- Bochvar/VNIIKP, Moscow, Russia, V. Sytnikov (LTS – Nb3Sn)

Program - 1

- *Motivation of the workshop*
  - Need of high and/or pulsed fields for High-Energy, High-Intensity Hadron Colliders
  - Summary of requirements on superconducting materials, strands and cables to satisfy future needs
- *Materials for high-B superconductors*
  - US experience on Nb3Sn, BSSCO
  - US experience on Nb3Al, YBCO, MgB2
  - EU experience on A15 (Nb3Sn, Nb3Al)
  - EU experience on HTS and MgB2
- *The EU panorama*
  - Review of the Industry R&D on high field materials (<10 presentations)
    - Presentations from each industry representative covering the available and planned product range, the performances (Jc, n, Deff, RRR, piece length, process control), present or planned production rate, plans for future R&D
  - Review of laboratories in the EU (A. den Ouden)
    - Survey of measurement capabilities and available facilities
    - Needs and proposal for upgrades in support of the R&D on high-B superconductors

Program - 2

- *Review of cable R&D*
  - High-B rutherford cable development in the US
  - ITER cable development
  - Cable design and R&D plan for NED
  - Pulsed-B cable development for GSI-IAF
  - Transmission line cables
  - *Novel* cable concepts (revisited): pulsed cables, segregated copper cables
- *Related topics*
  - Cable insulation technology (E. Baynham/A. Devred ?)
  - Relation to magnet manufacturing (spacers, winding techniques)