

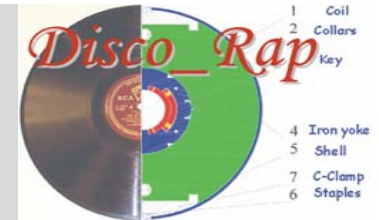
INTRODUCTION TO THE 6th GSI-INFN MEETING FOR SIS300 DIPOLE DEVELOPMENT

This meeting is aimed to discuss the status of the R&D activities in view of the objectives of 2007

- a) Conceptual Design
- b) Engineering Design (up to collared coil)
- c) Construction of the winding models

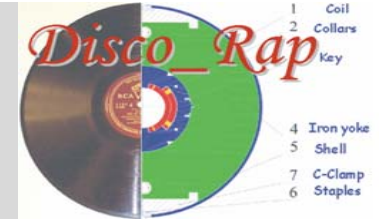
With the just awarded contract to ASG, all these activities are now started!

The agenda has been arranged accordingly



AGENDA

- | | | |
|--|----------------|-----|
| 1) Status of the R&D program | P.Fabbricatore | 20' |
| General Program updates (in view of the presentation at minitac) | | |
| Specific Program for 2007 updates (in view of the presentation at minitac) | | |
| Introduction to the technical points to be discussed. | | |
| 2) Status of the conductor R&D program | G.Volpini | 20' |
| 3) Paramagnetic effects in NbTi/ CuMn wires | U.Gambardella | 10' |
| 4) Magnetic lay-out | M.Sorbi | 20' |
| 5) Thermal steady state and transient analyses | M.Sorbi | 20' |
| 6) Materials and lay-out for collars and steel lamination | P.Fabbricatore | 20' |
| 7) Mechanical 2D analyses | S.Farinon | 30' |
| 8) Dimensions of insulation and mechanical properties. | S.Farinon | 15' |
| 9) Design integral harmonics. Harmonics measurements | | |
| Investigate the possibility to measure the harmonics on collared coils with a GSI tool | | |
| 10) Cryostat issues. | | GSI |
| Though the horizontal cryostat will come later we should like to start a discussion about the GSI ideas about the cryostat lay-out and constraints | | |
| 11) Activities at GSI (Ra measurement at BNL, 6T dipole model at IHEP, wire/cable measurements at UT, GSI001) | J. Kaugerts | |
| 12) Material data base- status,.... | | |
| 13) Contribution INFN to the PAC invited talk : FAIR rapidly cycling magnets | | all |
| 11) Next meetings. Videoconferences | | |

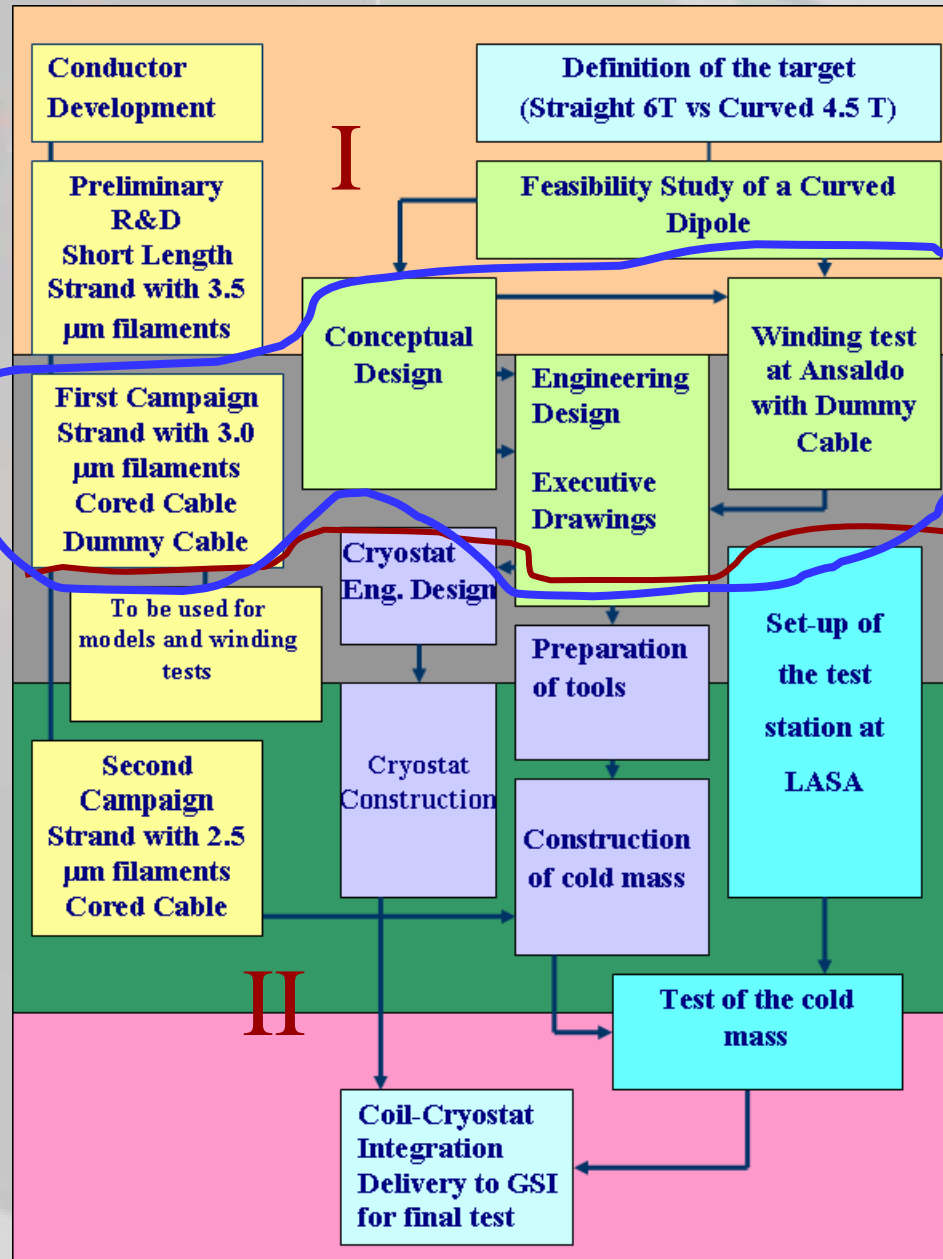


Conductor

Studies,
Design
and
Models

Construction

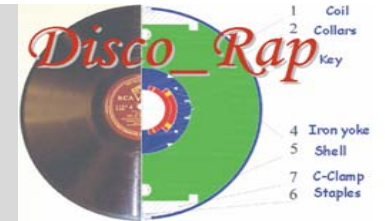
Tests



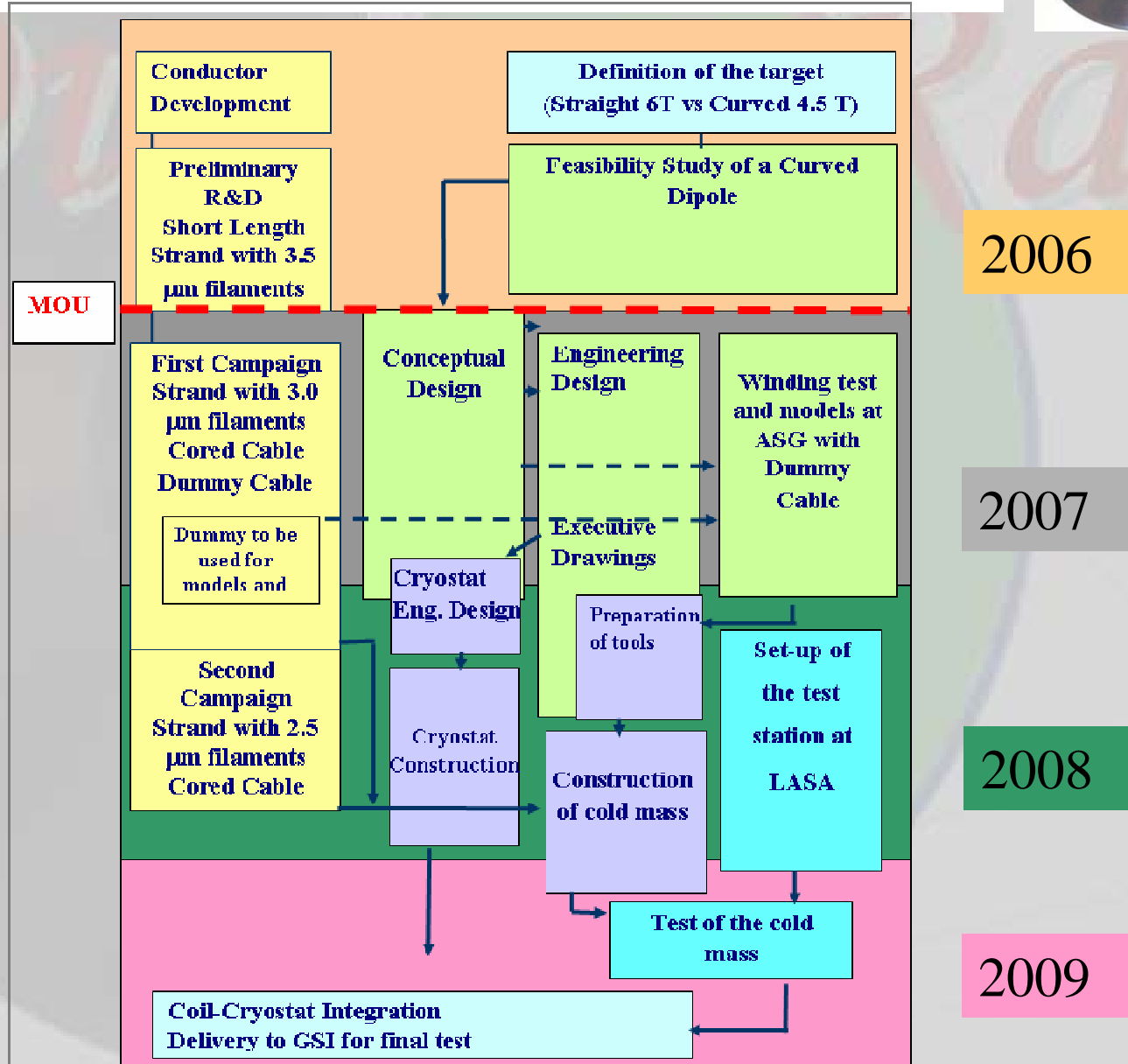
The INFN R&D program for curved SIS300 dipole.

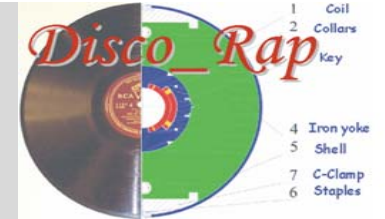
Two steps

Final goal:
3.5 m long
4.5 T
curved dipole
in its
horizontal
cryostat

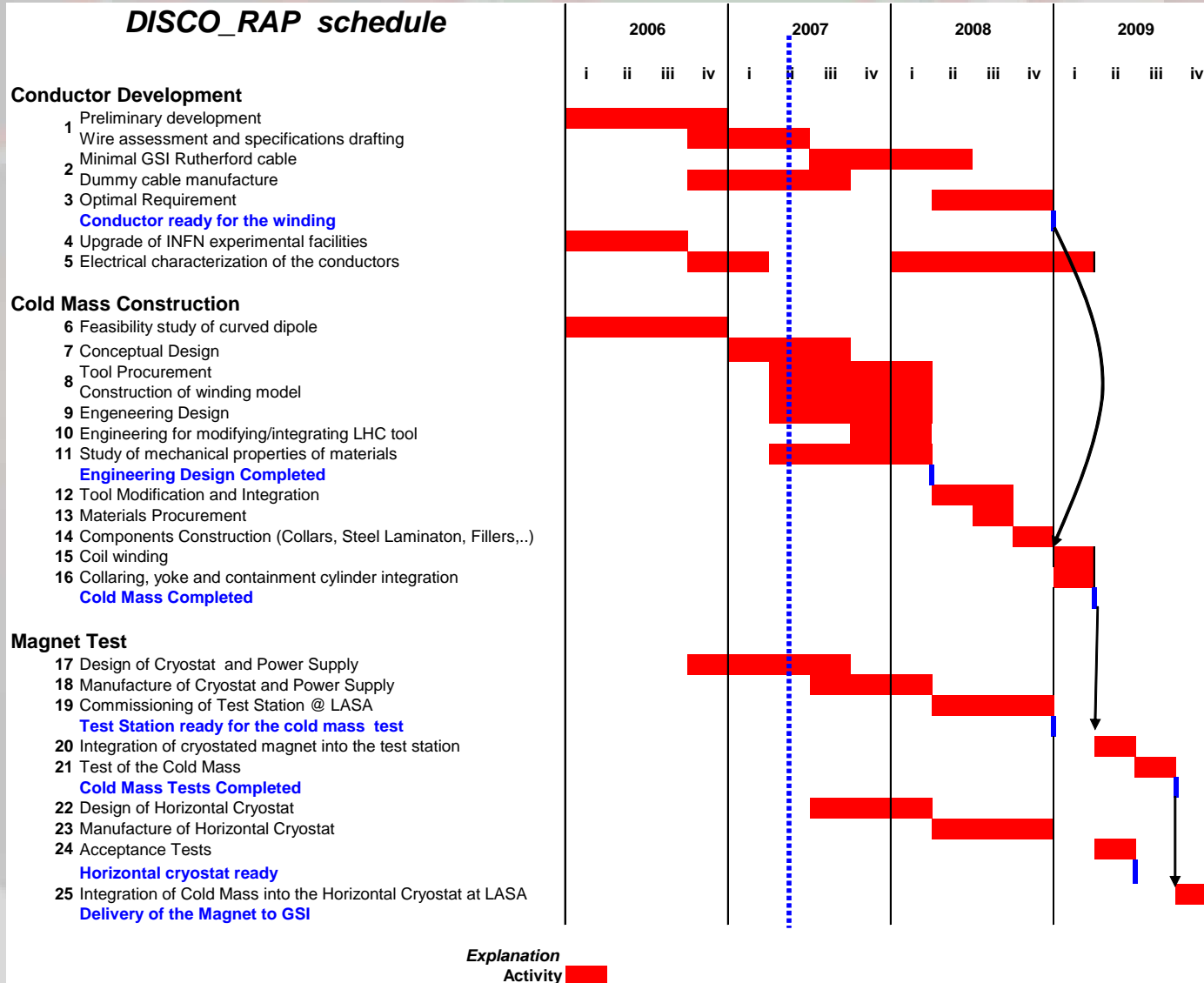


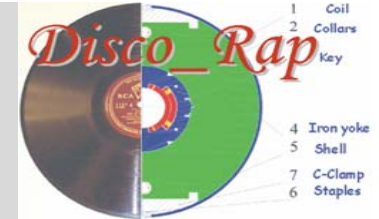
UPDATED BLOCK DIAGRAM OF THE ACTIVITIES



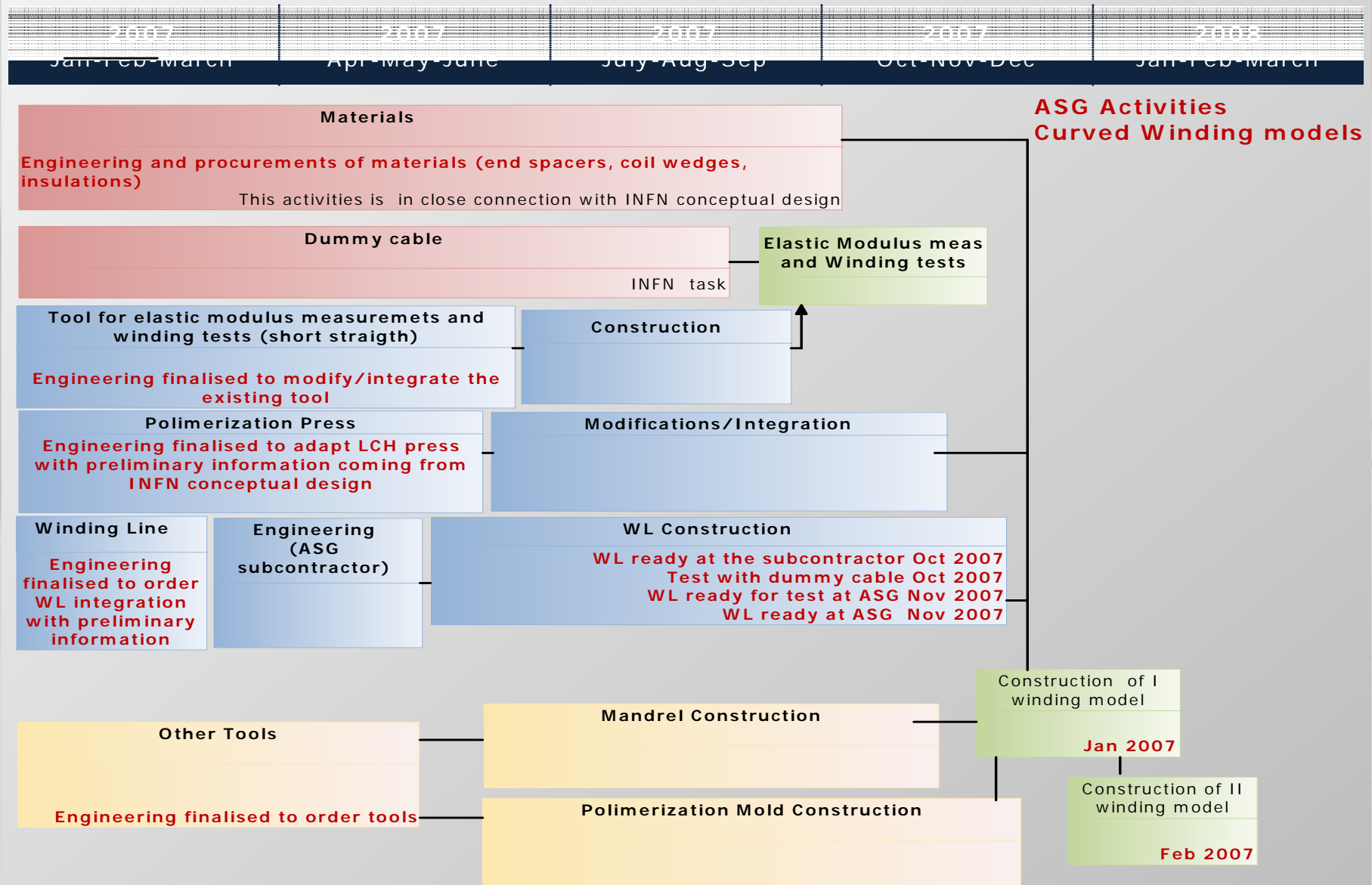


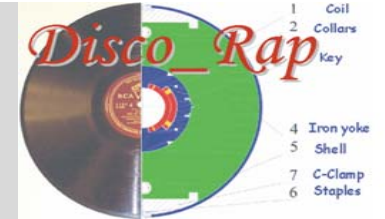
DISCO_RAP schedule



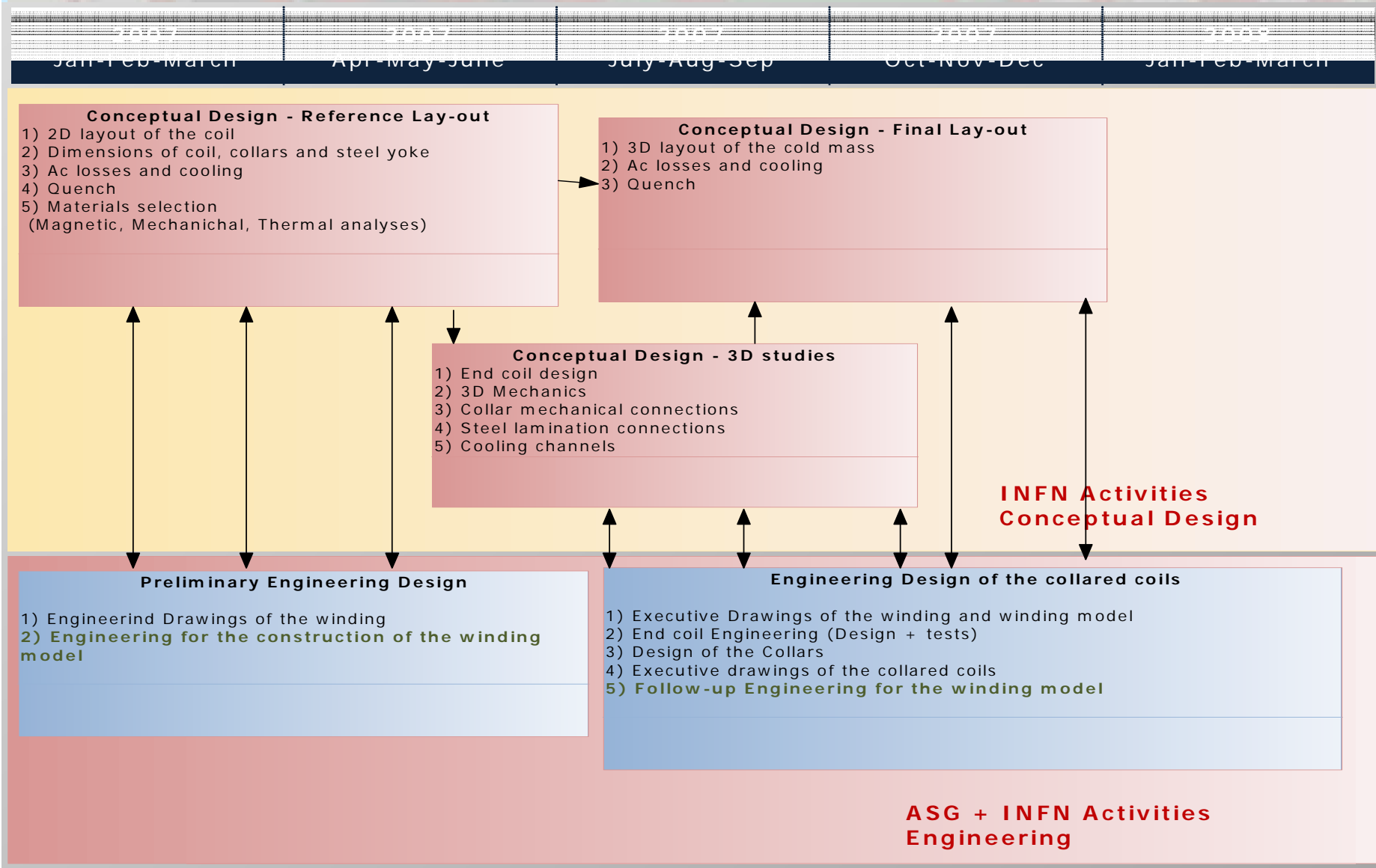


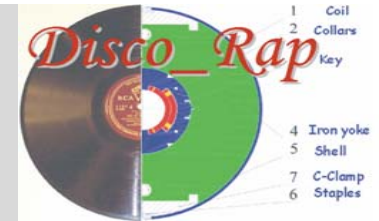
Construction of the winding models





Conceptual Design and Engineering





The reference lay-out can be finalised within June. The actual pending issues are:

- 1) Collar thickness: the ongoing studies shows that a thickness between 22 and 27 mm could be more suitable (P.F and S.F presentations)
- 2) Coil mechanical properties – Thickness and details of the insulation (S.F presentation)
- 3) Effect of the wire paramagnetism (U.G. presentation)
- 4) Optimization of the iron yoke – Trial computations done. To be finalised after the winding and collars lay-out is completely frozen (M.S. presentation)
- 5) Wire cross section lay-out). (G.V presentation)