ST-HM Design Section
Strategy and working methods

3rd April 2003

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ST-HM-DE… that means?!?

- ST-HM group is charged of all concerning Transport and Handling at CERN

- ST-HM-DE is charged of all concerning studies, design and procurement of handling means and to analyse handling methods with feasibility studies

From predefined items to global studies

- In the past years, our section was mainly devoted to design and procure predefined handling means; the needs were defined by the users and the design was developed in collaboration with him.
- Today, complete studies are required, covering: analysis of the item transport requirements, feasibility studies, path definition, study and procurement of handling means, installation of them, execution of the transport:
  - From the arrival at CERN on his truck to the final destination… this become the whole affair of ST-HM
- This very often means, that transport requirements have not been taken into account in early design phases of the item, or … not at all

An example of global study: LHC cold boxes

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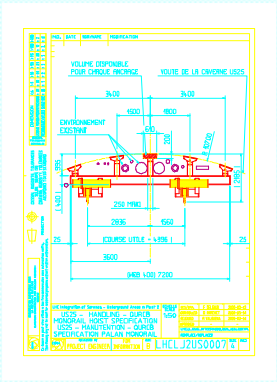
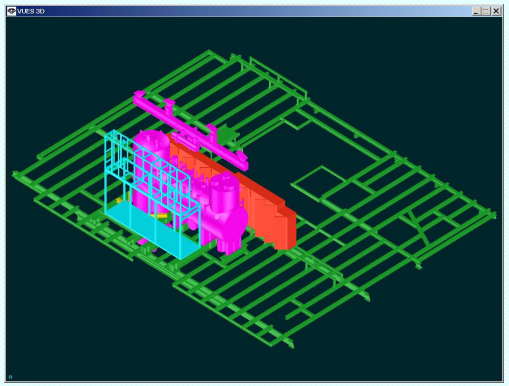
To be installed into US caverns with no space!

Handling tools procurement

Lifting means design

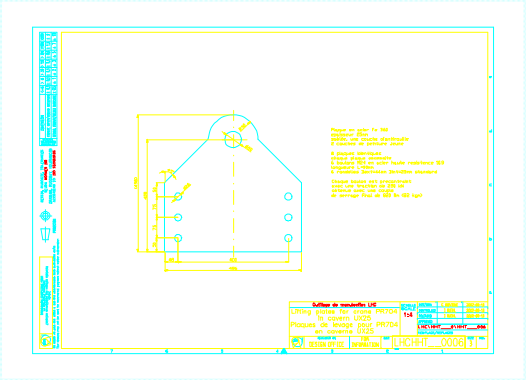


Feasability and path analisys



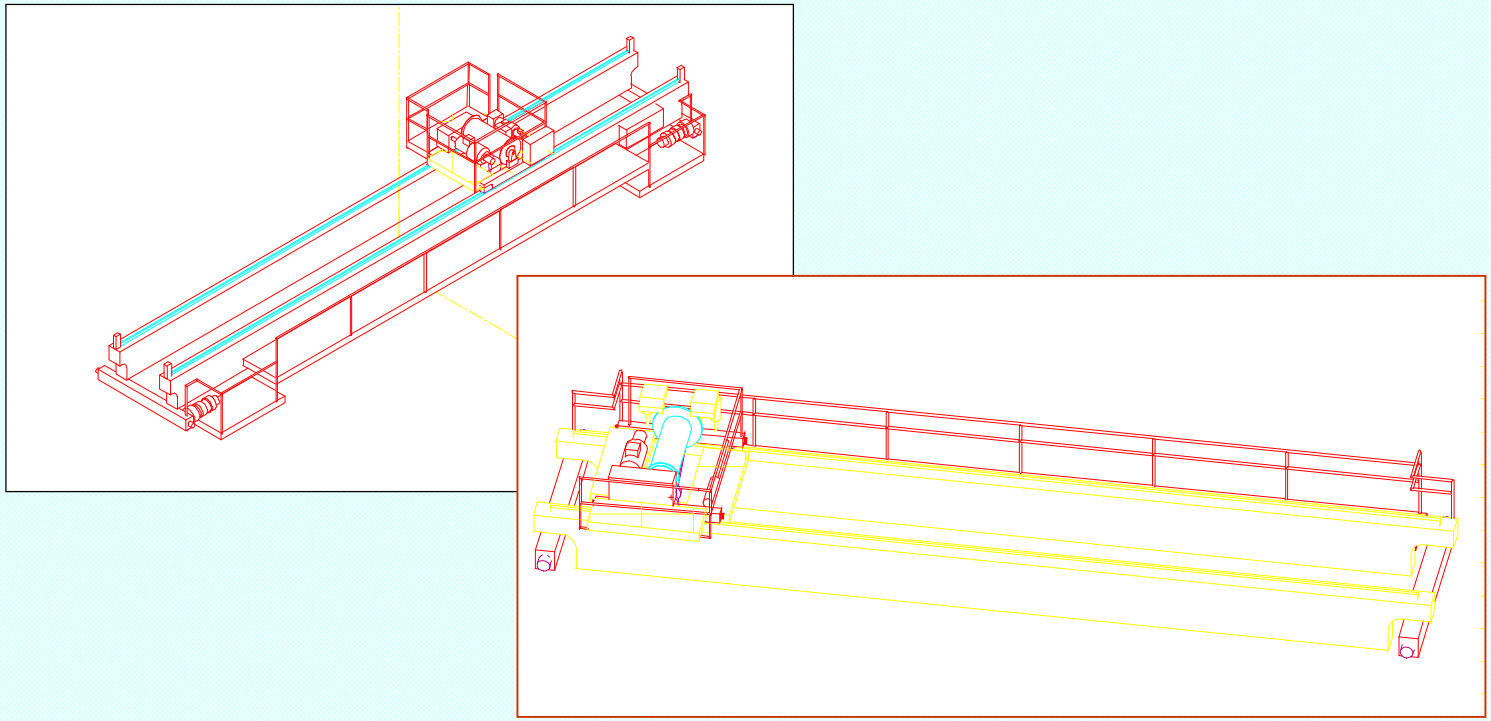
Design Studies (structural calculation)

- In 2002 several handling tools and interfaces have been designed. Requests come when the item to be transported is on the field. The trend for the future is a strong increase.
- Handling tool design needs TIS APPROVAL before construction (increasing supply times)!



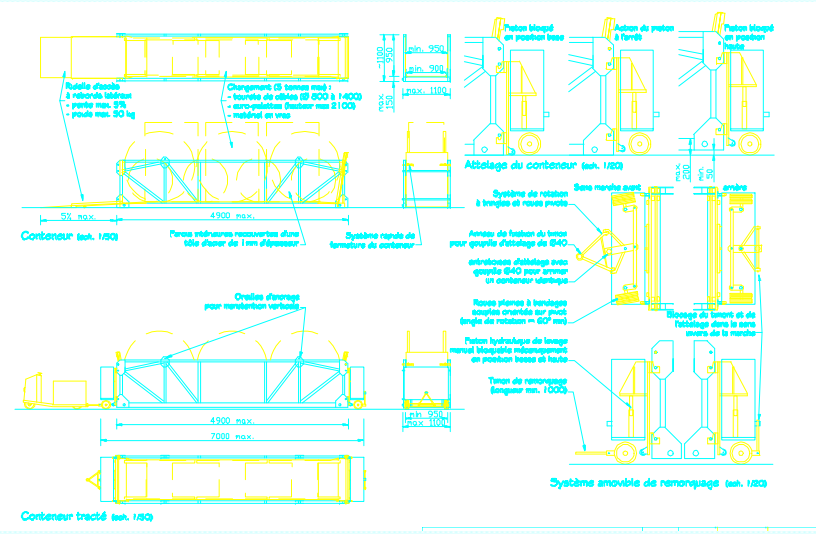
Drawing - Mock up activities

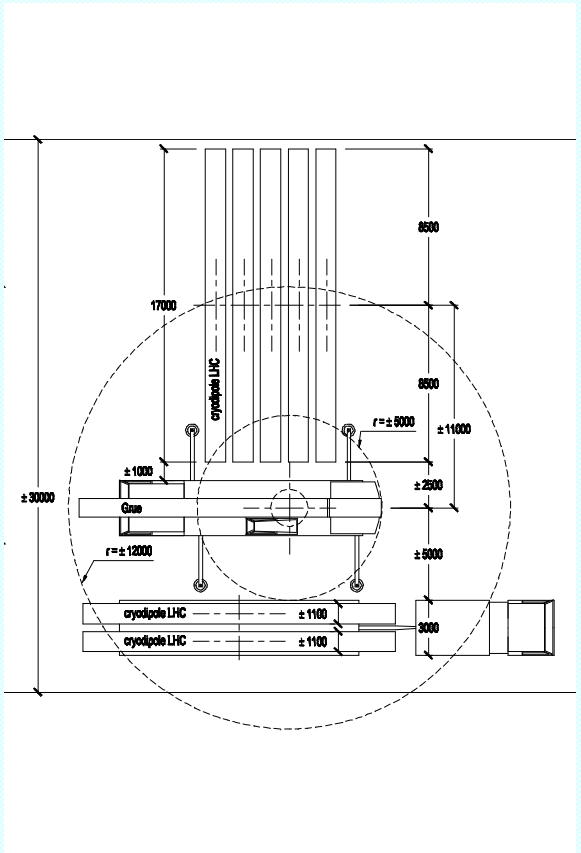
- Realisation of 13 Mock ups of LHC handling equipment, other 6-8 in 2003



Drawing activities

- Drawing activity
  - Drawing for ITs
  - Construction drawings for studies
  - Sketch for operation, required by TIS, rapid increase is foreseen





Invitations to tender-projects

Most important Orders signed in 2002:

- Power feed rail for TIs tunnels (~410 kCHF)
- 25 containers for LHC pipes and cable drums (~380 kCHF)
- Vehicles for tunnel: 6 heavy tractors, 4 light tractors, 4 electric pallet trucks, 40 new RTL (in IT) and 10 trailers for personnel (DO) for a global amount of ~850 kCHF
- Vehicles for surface: 2 forklifts and one sideloader (~300 kCHF)
- Lifts: 2 lifts for ATLAS (~180 kCHF)
- Hoisting means: 1 crane for BB5 and one hoist for USA15 for a total amount of ~100 kCHF
- It becomes apparent from these data that all the main handling means for LHC installation have been defined enough in advance, but now a big refining work is required.

Some of the items procured in 2002

DO-IT activities & trend

Years	DO-IT number (supplies)	DAI and contract number (supplies)	Global amount of engagements (MCHF)
2001	5 DOs 6 ITs	5 orders (DAI) 2 contracts	~7,9 MCHF
2002	9 DOs 3 ITs	26 orders (DAI) 1 contract	~1,8 MCHF
2003, at 25th-3-2003 (forecast for 2003)	5 DOs (20 foreseen in 2003) no ITs (2 foreseen)	15 orders (DAI), 60 foreseen no contracts, 1 foreseen	~584 kCHF (~3,7 MCHF foreseen)

Summary of the procurement activity of ST-HM-DE section

Conclusions and Proposal

Up to now, our section could afford the required work, in the future, our needs will increase and possible solutions are:

- Evolution of CERN purchasing procedures
  - Local DO and 2-3 weeks answer time for 'off-the –shelf' products
  - Fasten signature circuit for DAI of 50-100 kCHF (for ex, if order value is within DR)
- Internal organisation
  - Clear attribution of roles between ST-HM and EST-IC, especially for design purposes: where is the competence interface.
  - Recruitment of one more person (we are 2 now!) for drawings and procurements of standards items