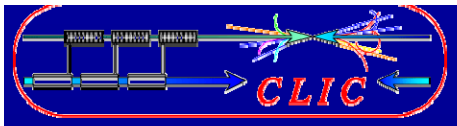


CLIC / ILC Collaboration for CFS works

Draft Mandate and Work Plan

Working Group Convenors : C.Hauviller & John Osborne (CERN), V.Kuchler (FNAL)

Presented at Collaboration meeting of 13 May 2008

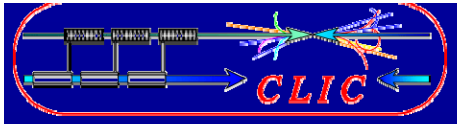
CLIC / ILC Collaboration for CFS Works

The following working groups already exist :

- The Conventional Facilities and Siting ‘CFS Team’ for ILC
- ‘Civil Engineering and Services’ CES for CLIC, based at CERN

These groups work independently on the civil engineering and services side of both projects.

However, it has been agreed that resources permitting, both groups will work together on areas of mutual interest for both projects.



CLIC : Civil Engineering and Services (CES) WG

CES Working Group Representatives :

Civil Engineering and Chairman	**J.Osborne**
CLIC Link Person	**H.Braun**
Cooling and Ventilation CV	**J.Inigo-Golfin / C.Martel**
Electricity EL	**K.Kahle**
Survey SU	**H.Mainaud Durand**
Controls, Safety ASE	**T.Pettersson**
Horizontal Handling HE	**K.Kershaw**
Vertical Handling HE	**I.Ruehl**
CE Layouts and cross-sections	**A.Kosmicki / D.Parchet**
SC Link Person	**R.Trant**

Monthly and ad-hoc meetings.

Reporting to CLIC Technical Committee chaired by C.Hauviller.

CLIC Civil Engineering and Services (CES) WG

Mandate :

General Objective

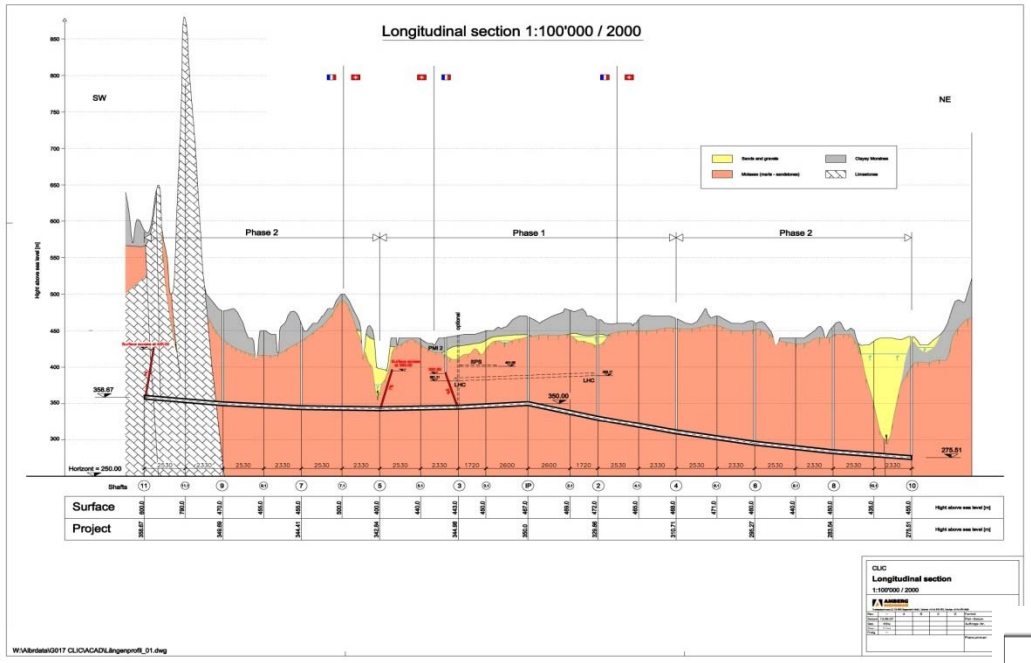
-Develop the existing layouts for the project from a civil engineering and technical services point of view, and work with the various actors towards a realistic design for the CDR in 2010.

Specific responsibilities:

-Work will concentrate on the tunnel cross section required to accommodate the machine and it's services (e.g. ventilation, electricity, survey, controls, safety and handling equipment)
-The overall layout for the civil engineering (surface buildings, injectors, return loops and accelerator tunnels) will be studied for the various energy ranges i.e. 500Gev, 1Tev and 3Tev.
-Develop a layout for the interaction region.
-Work together with ILC on areas of synergy.

This group will report back to the CLIC Technical Committee.

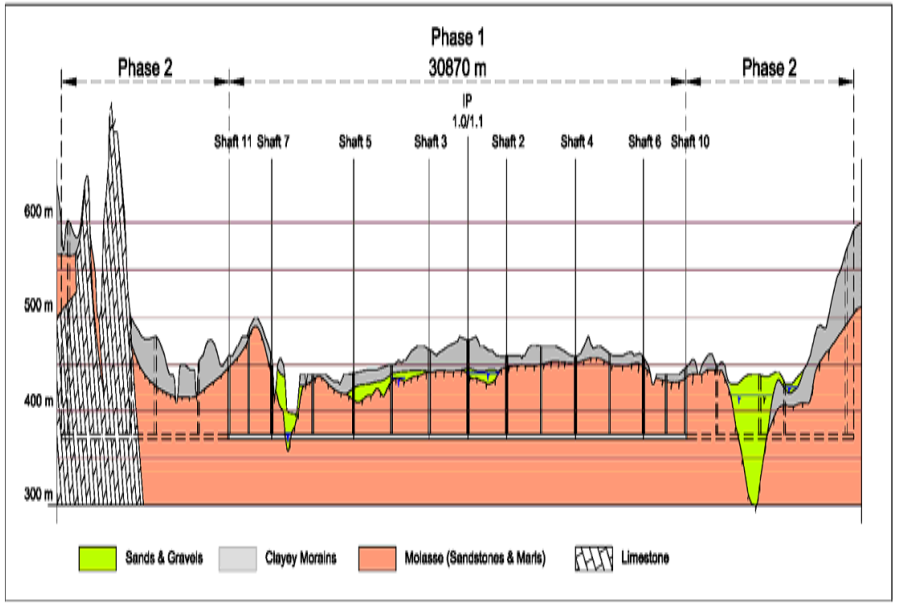
Regular meetings are planned for once a month on 2nd Wednesday of the month 2:30pm.
First meeting 14 May
Ad-hoc meetings on dedicated subjects eg EL 4 April, CV 29 April….



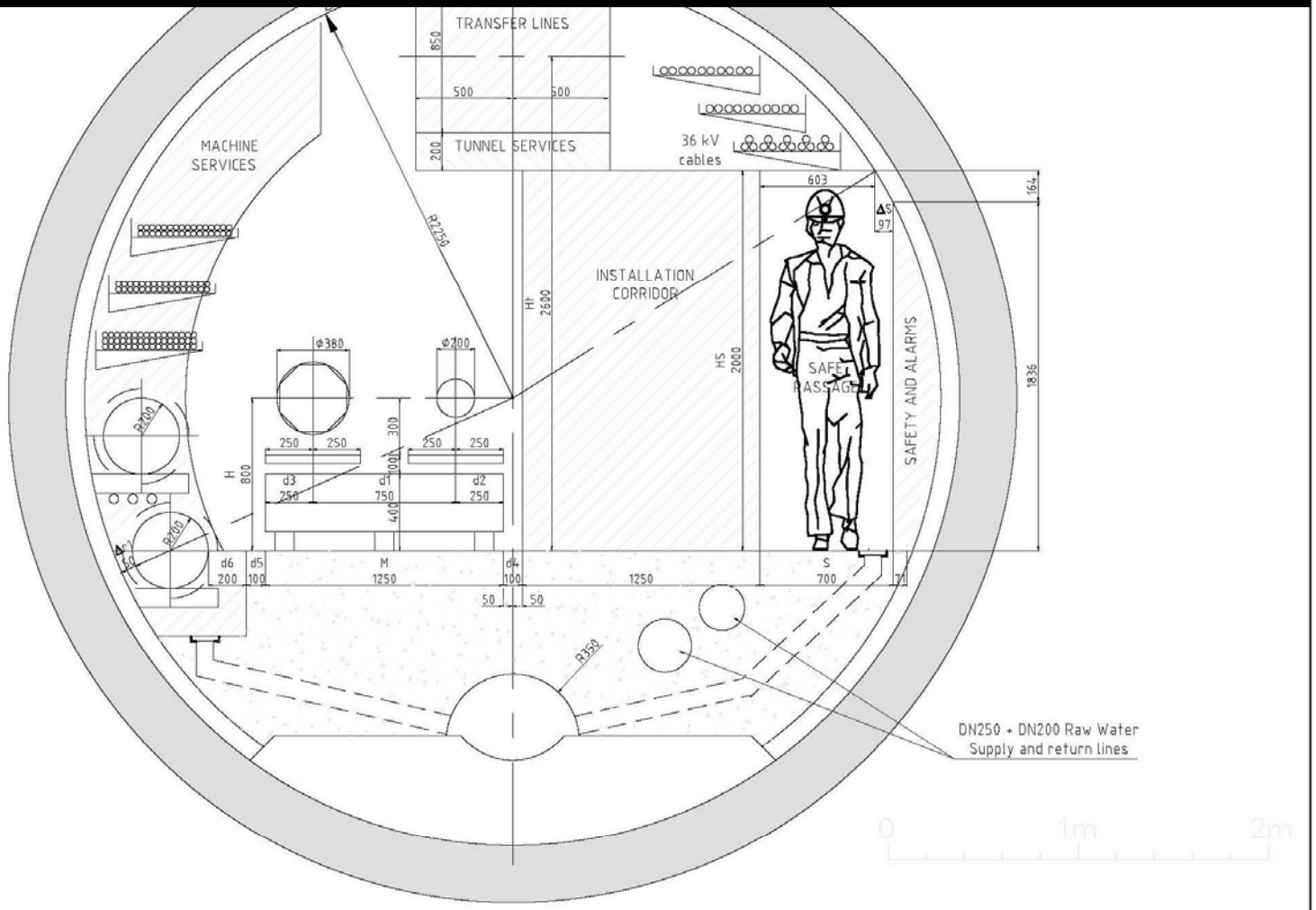
Study Example :

TBM technology advancements

Meeting with TBM manufacturer scheduled for June 2008 at CERN



Study Example : CLIC – Typical Cross Section



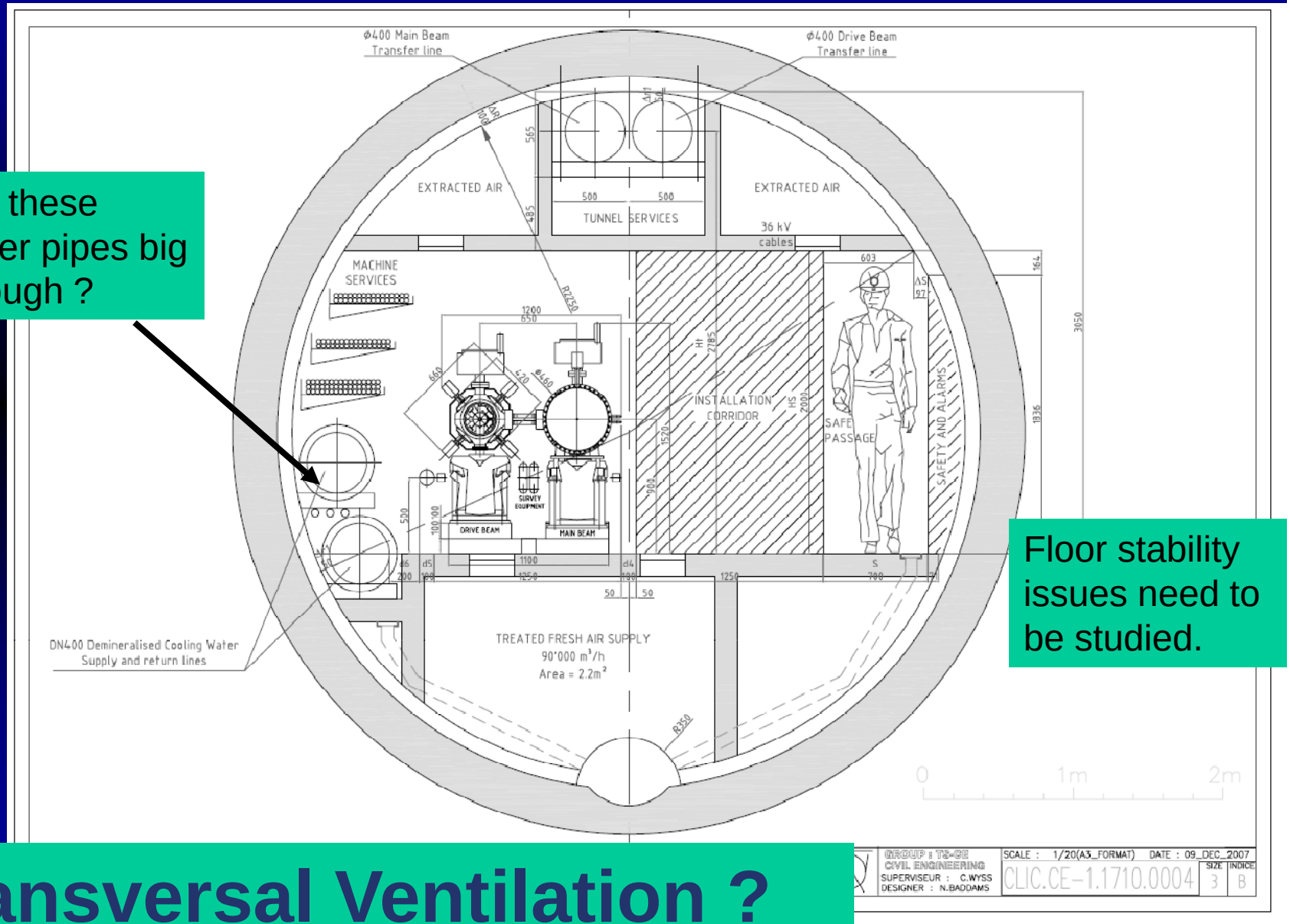
CLIC TUNNEL TYPICAL CROSS SECTION

GROUP : TS-CE
CIVIL ENGINEERING
SUPERVISEUR : C.WYSS
DESIGNER : N.BADDAMS

SCALE : 1/20(A3_FORMAT) DATE : 14_MAY_2007

CLIC.CE–1.1710.0004 | SIZE 3 | INDICE -

CLIC – CV issues



Are these water pipes big enough ?

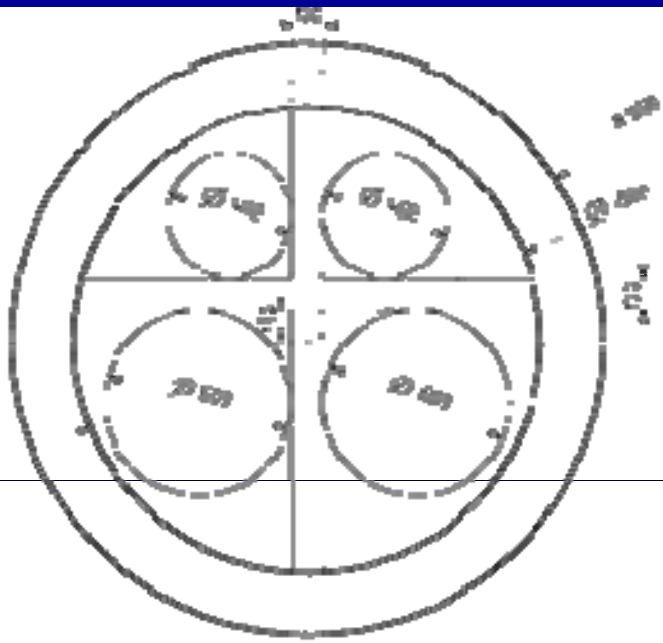
Floor stability issues need to be studied.

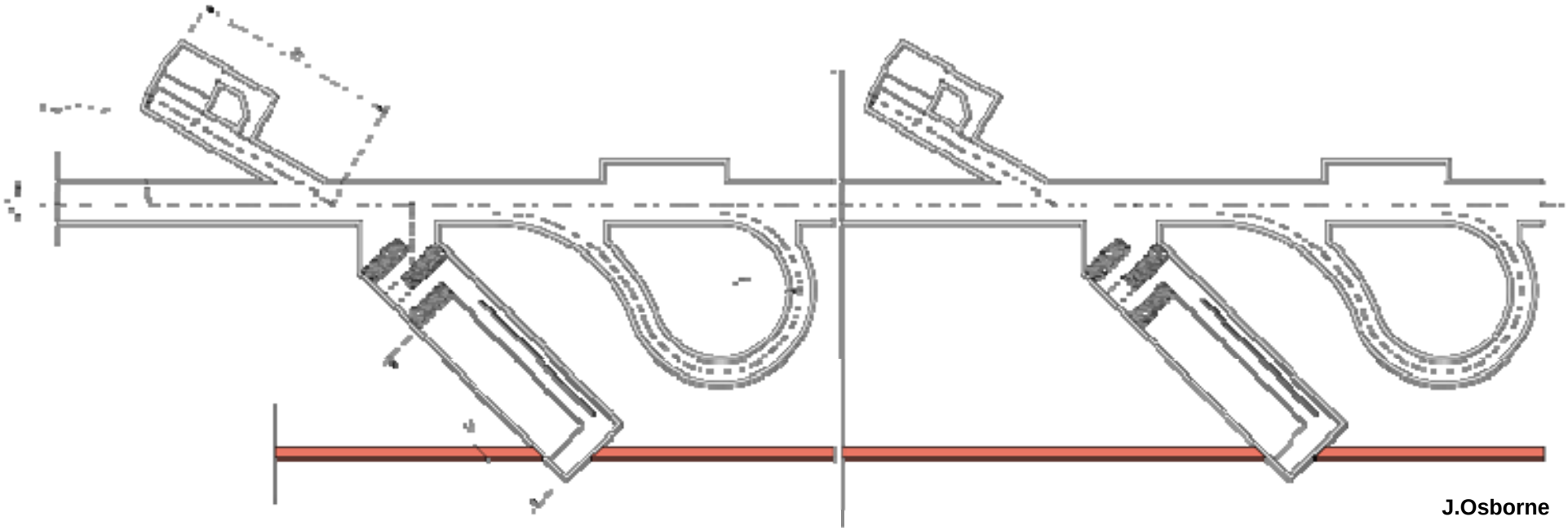
Transversal Ventilation ?

CLIC Cooling Study

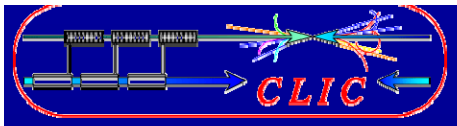
Proposed 1.5m diameter micro-tunnel for Cooling Pipes :

- Approx. cost for CE works 250MCHF
- Intermediate caverns would be needed for construction of micro tunnel
- Integration for cooling pipes is complicated
- Major impact on civil planning (excavated spoil through 'completed' structures)





J.Osborne



ILC : Conventional Facilities and Siting (CFS) WG

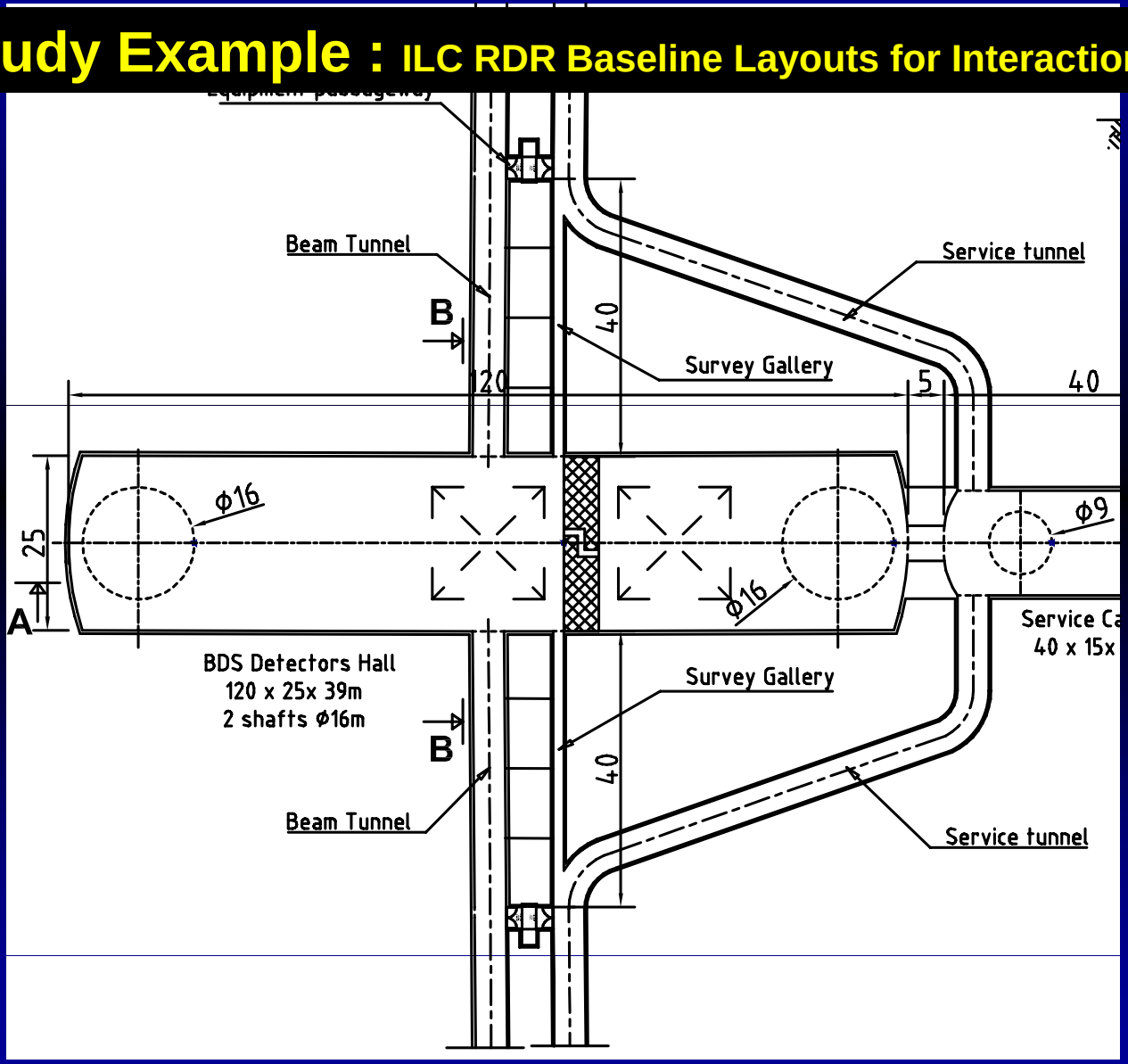
CFS Working Group Representatives :

CERN	**J.Osborne**
FNAL	**V.Kuchler, E.Huedem, T.Lackowski, L.Hammond**
KEK	**A.Enomoto, M.Tanaka**
JINR	**G.Shirkov, G.Trubnikov**

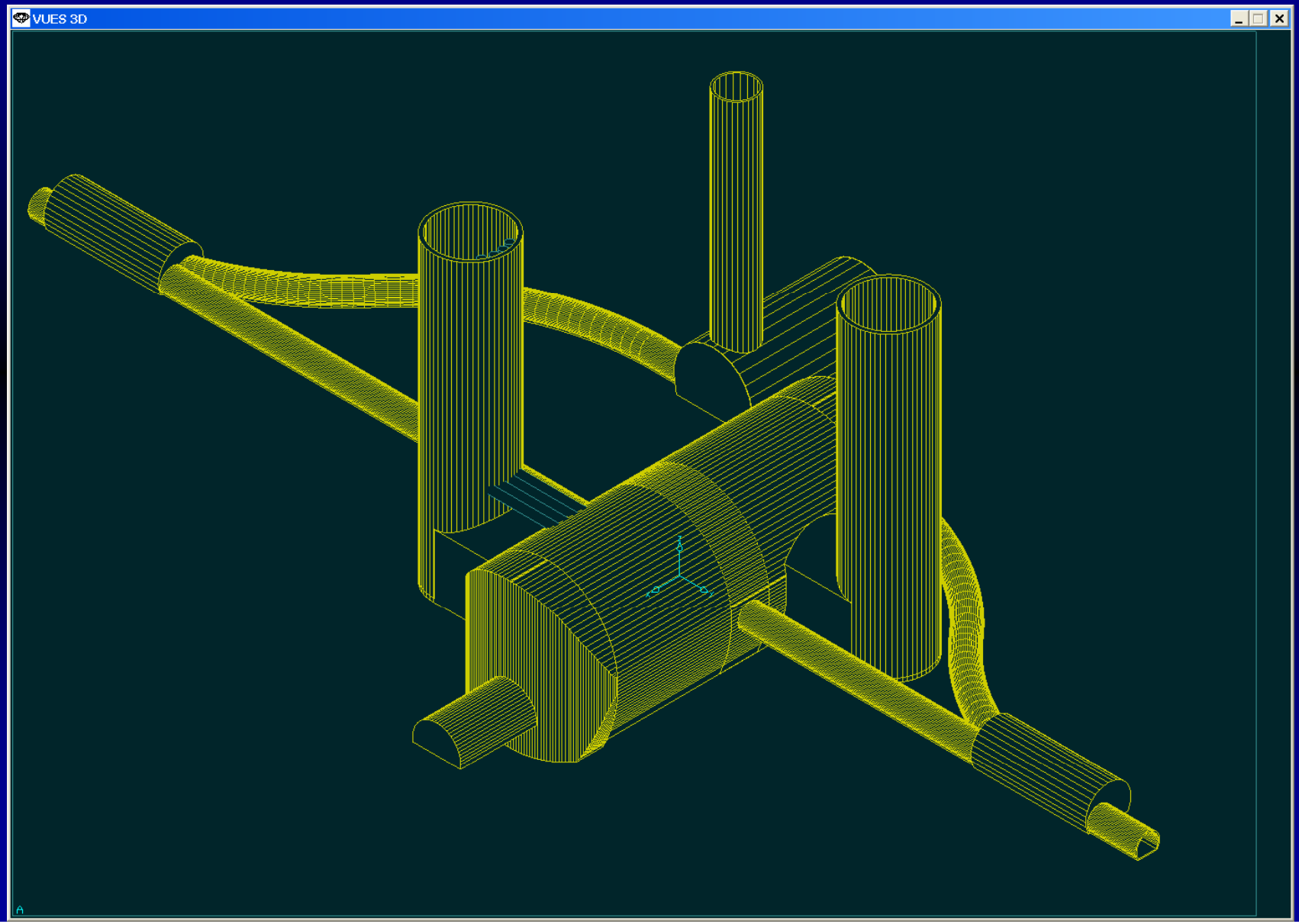
Project Management : M.Ross, J.Carwardine, P. Garbincius…..

Video Meetings every two week.

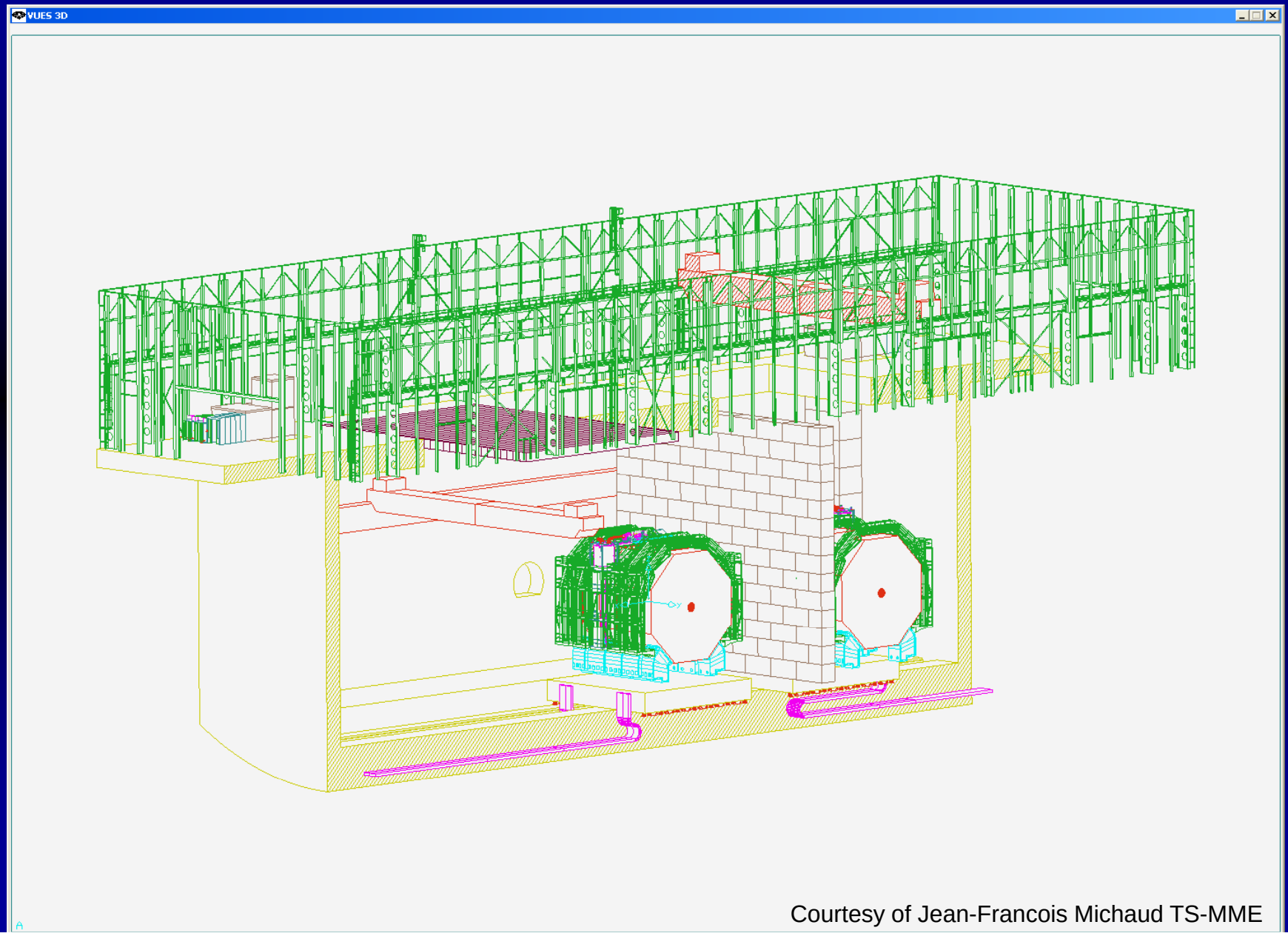
Study Example : ILC RDR Baseline Layouts for Interaction Region



Possible layout for ILC Interaction Region for Deep Tunnel Solution using CMS concept

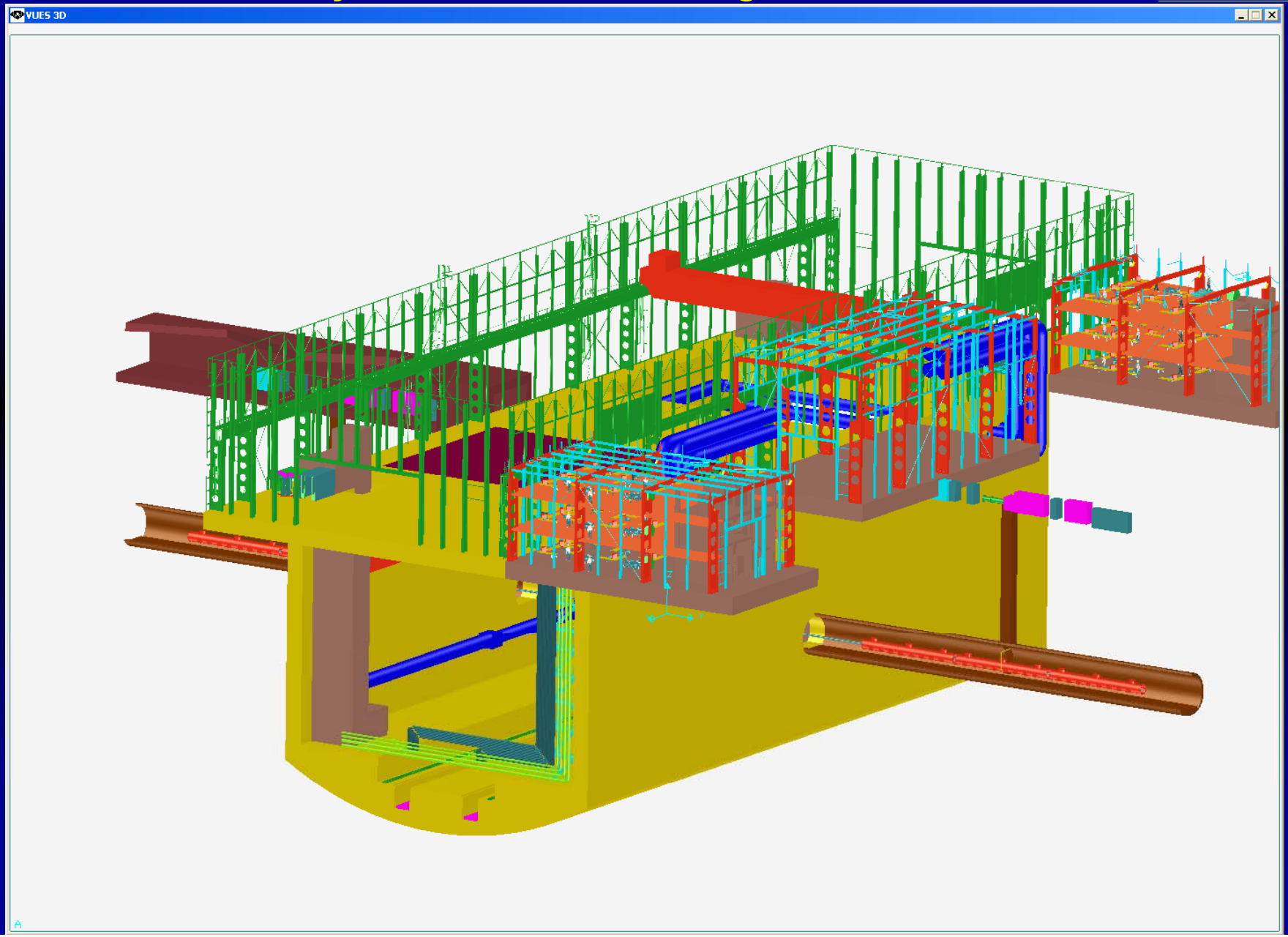


Possible layout for interaction region for a Shallow Site



Courtesy of Jean-Francois Michaud TS-MME

Possible layout for interaction region for a Shallow Site



CLIC / ILC Collaboration Mandate for CFS Works

DRAFT

- The following working groups already exist :

- 'Civil Engineering and Services' for CLIC, based at CERN
- The 'CFS Team' for ILC

These groups work independently on the civil engineering and services side of both projects.
However, it has been agreed that resources permitting, both groups will work together on areas of mutual interest for both projects, including :

- Civil Engineering Studies
  - Optimisation of Tunnel and Shaft diameters, distance between shafts (linked to safety)
  - Overall layout of the machine and interaction region infrastructure
  - Shallow site v Deep Tunnel Option
  - Single Tunnel v Double Tunnel
  - Safety issues such as emergency egress
  - Environmental issues

Etc.

- Other Infrastructure
  - Cooling Water ?
  - Power Distribution
  - Air Handling
  - Transport Issues
  - Radiation simulations / shielding ?

Etc.

- The progress of these working groups on areas of mutual interest will be reported at the ILC-GDE and CLIC Collaboration Meetings working towards CLIC CDR and ILC TDP Phase I in 2010.