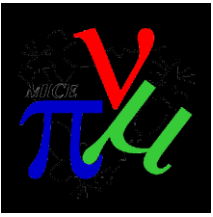
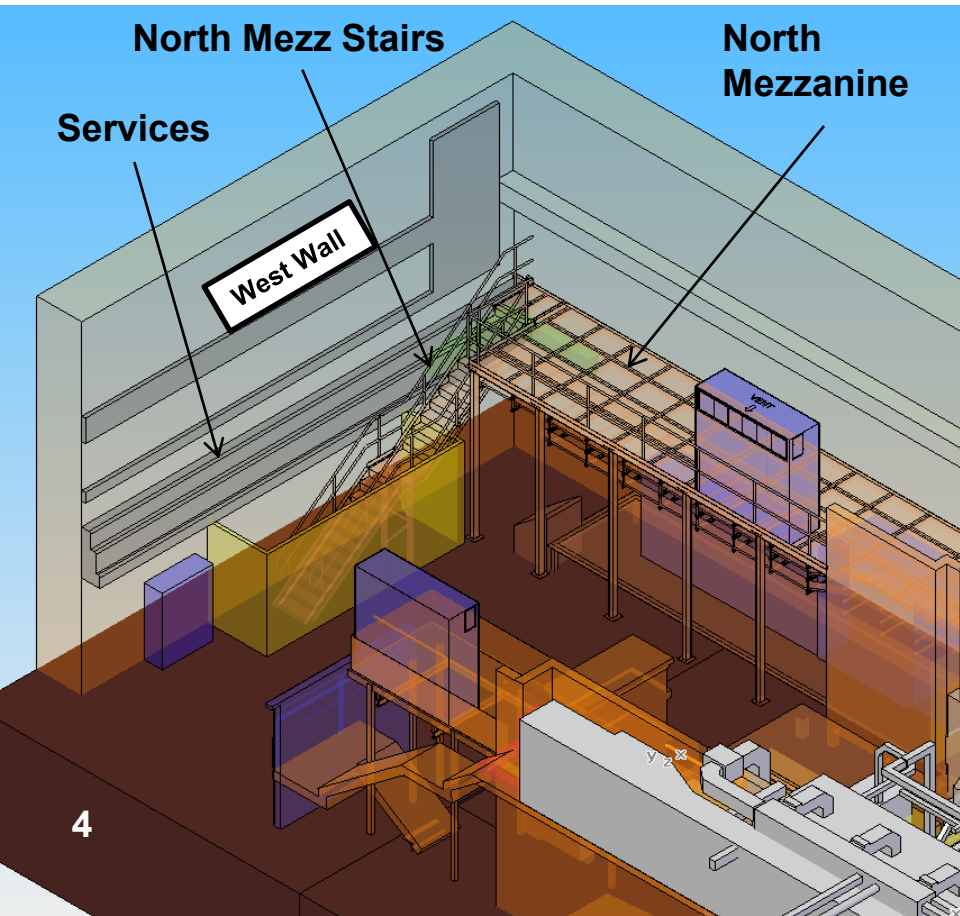


# Requirements



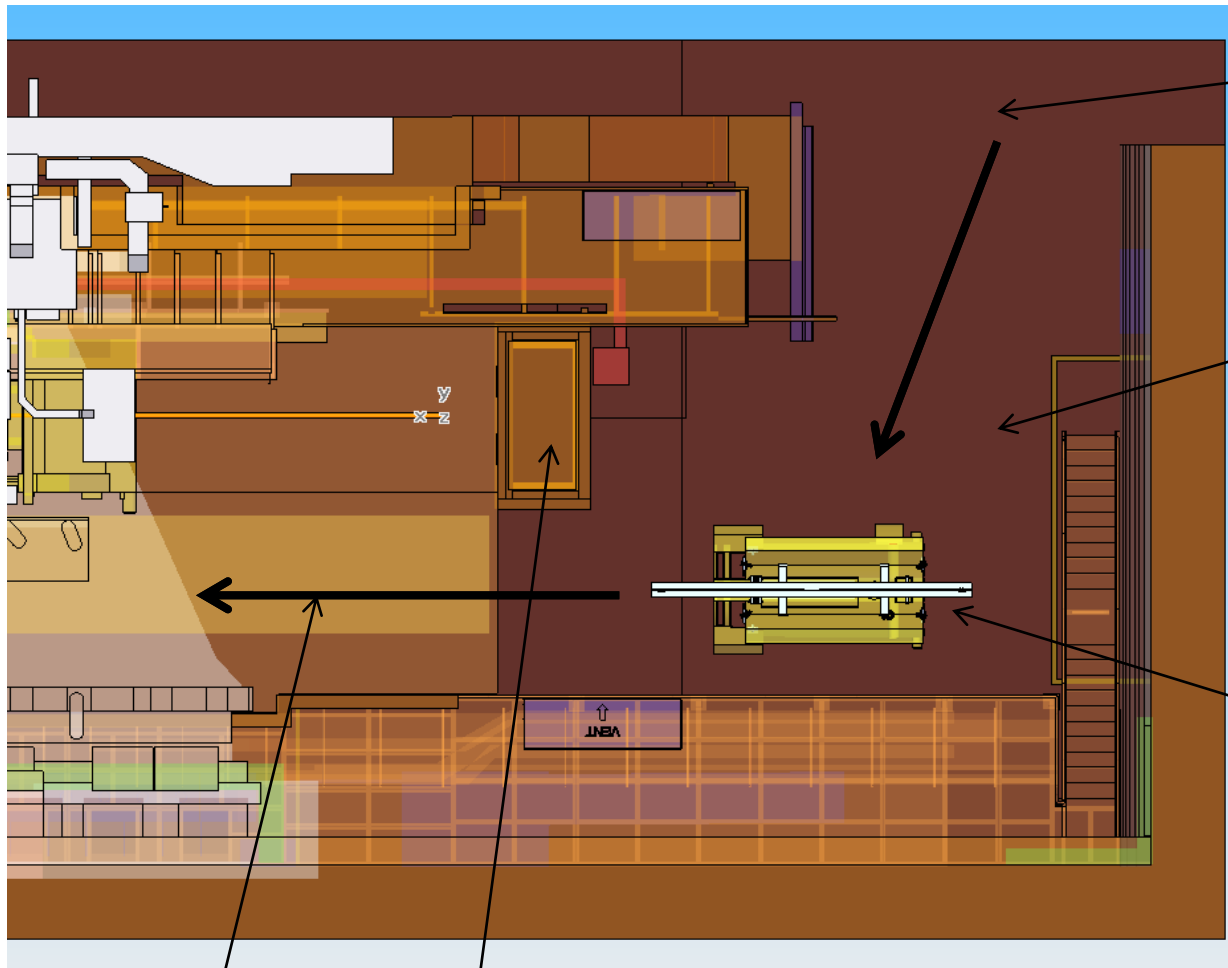
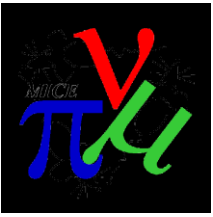
- Requirements
  - Step IV 4 x Sumitomo, 15 x Cryomech
  - Compressor control rack in NW corner
  - Space at west wall for routing compressor control cables & trunking
  - 30m hose lengths
  - Simple compressor hose management
  - Distribution board above Potterax door
  - Safe & easy access & egress from mezzanine
  - Provide reception / assembly area for the MICE devices
  - Compressors removable from mezzanine

# Current West Wall Layout



Current West Wall Configuration

# Current West Wall Layout



Potterax Door

Assembly & Preparation Area

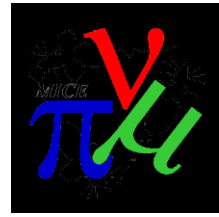
Spectrometer Solenoid with Tandem Lifting Beam (at crane extent)

Installation Path

Beam dump

Area at West Wall for Device Assembly & Preparation

# Compressor Position



15 x Cryomech compressors

Proposed West Wall Mezzanine

Control services trunking

Unchanged North Mezz stairs

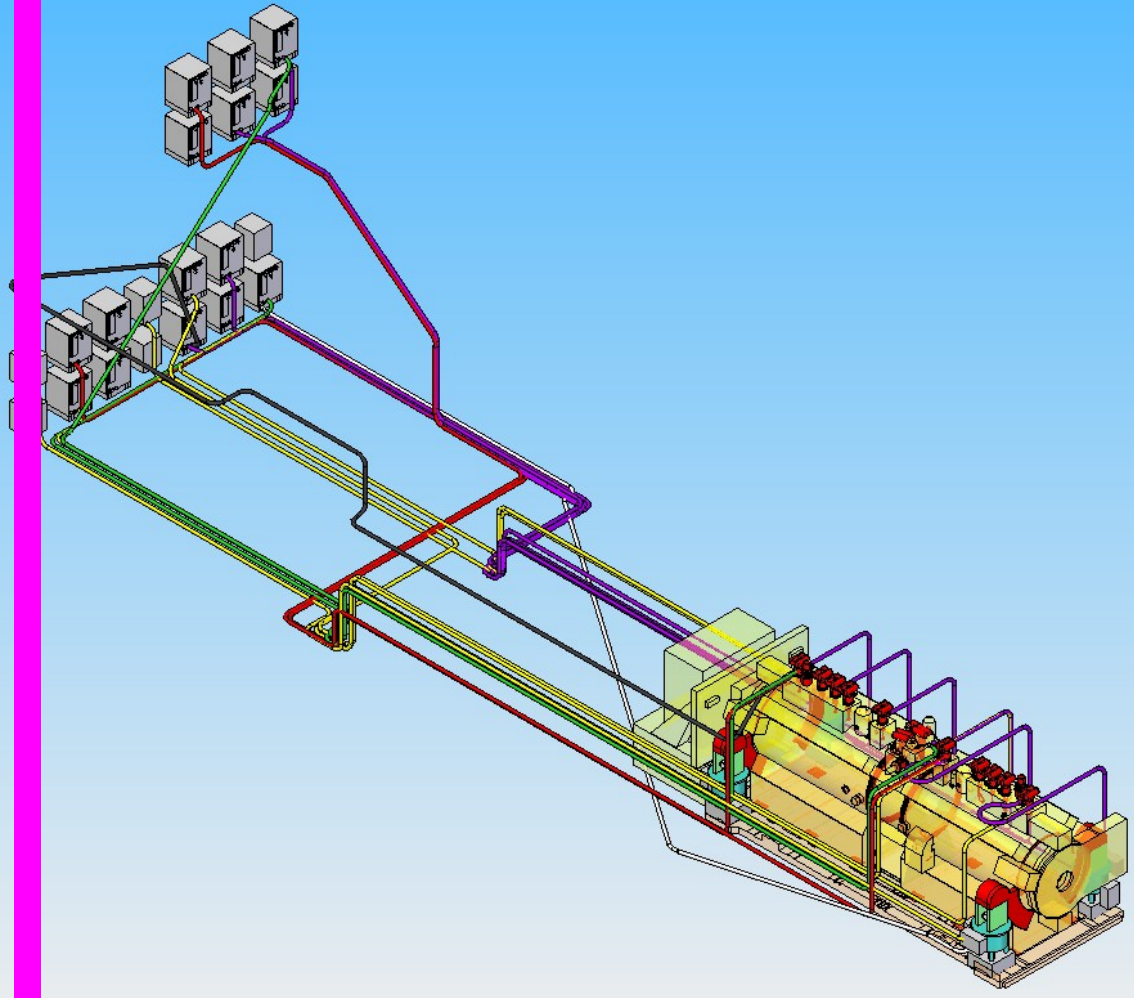
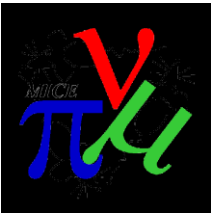
Compressor control rack

4 x Sumitomo Compressors

Compressors for Step IV shown at West Wall

- Step IV 4 x Sumitomo, 15 x Cryomech
- Space at west wall for routing compressor control cables & trunking
- Compressor control rack in NW corner

# Compressor Line Routing

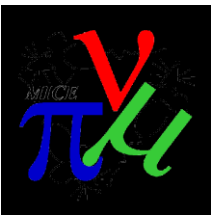


## Different Routing Layouts

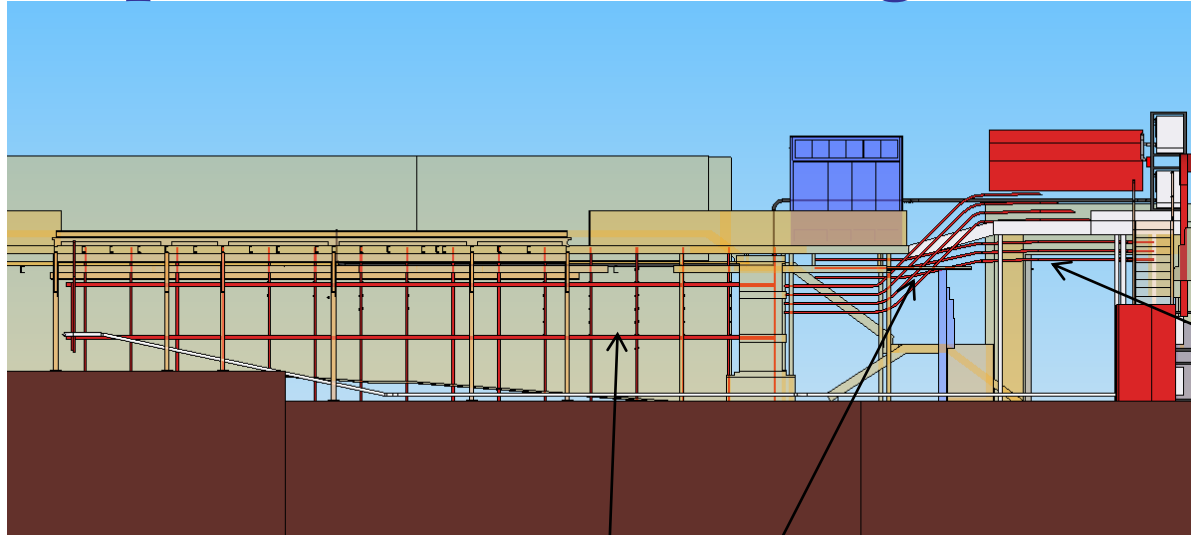
- ~~• Cryomech 40 m (purple) / Sumitomo 30 m (yellow). Adv = Only 4 x Sumitomos crossing main assembly area. Disadv = 4 x Sumitomos crossing assembly area. Cryomechs at 40 m (30 m max w/o losses). Hoses connected on north side in way of moving platforms (hence alternative red hoses shown).~~
- ~~• Cryomech 35 m (green) / Sumitomo 30 m (yellow). Adv = Cryomech hoses closer to 30 m. Disadv = Most hoses cross assembly area, require false floor.~~
- Cryomech 30 m (black) / Sumitomo 30 m (white). Adv = Cryomech & Sumitomo at preferred length. They are not routed across the assembly area. Disadv = Cryomech hoses will have to form bridge over 'landing' just inside Potterax door. Full West Mezzanine required to move 6 Step IV compressors to south side.

30m hose lengths

# Compressor Hose Management

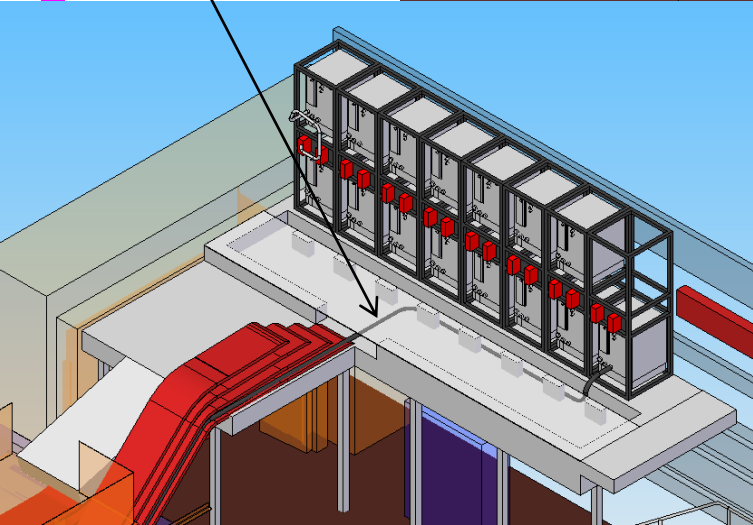


Compressors  
Hose  
Management



Step V & VI  
hose trays

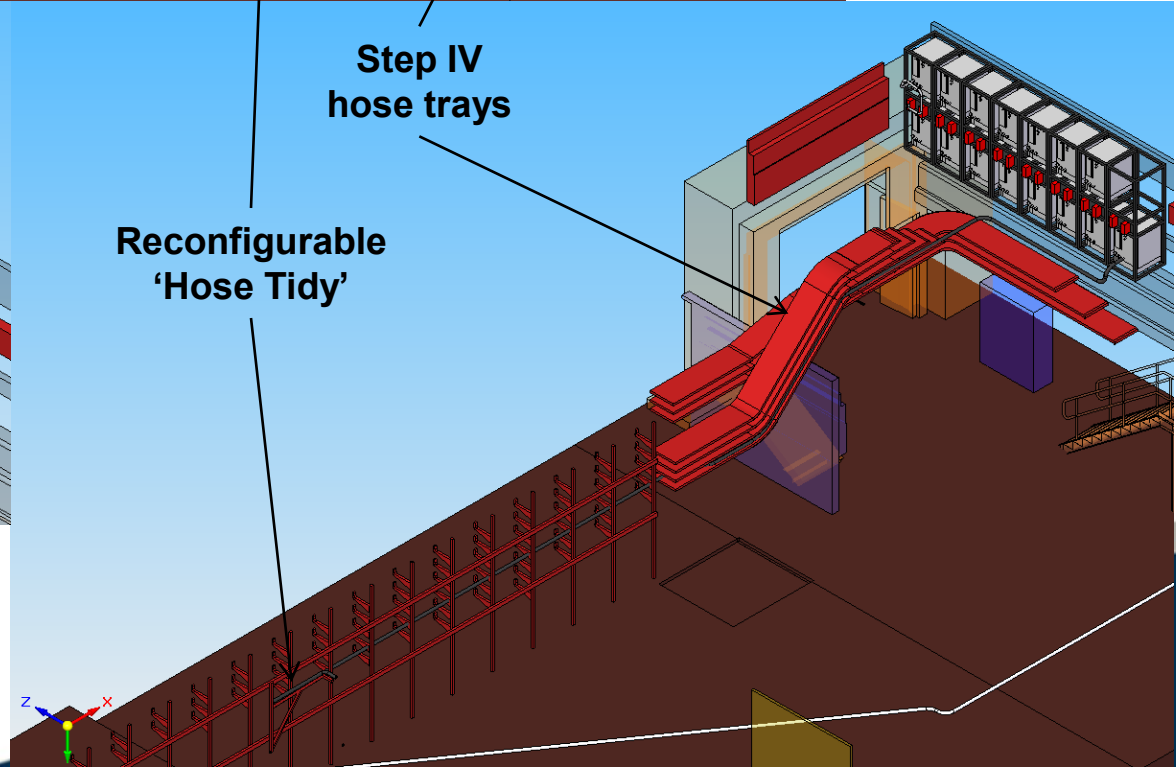
Hose Under  
Mezz Floor



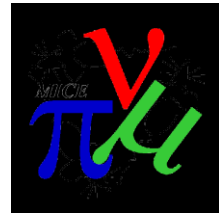
Simple compressor  
hose management

Step IV  
hose trays

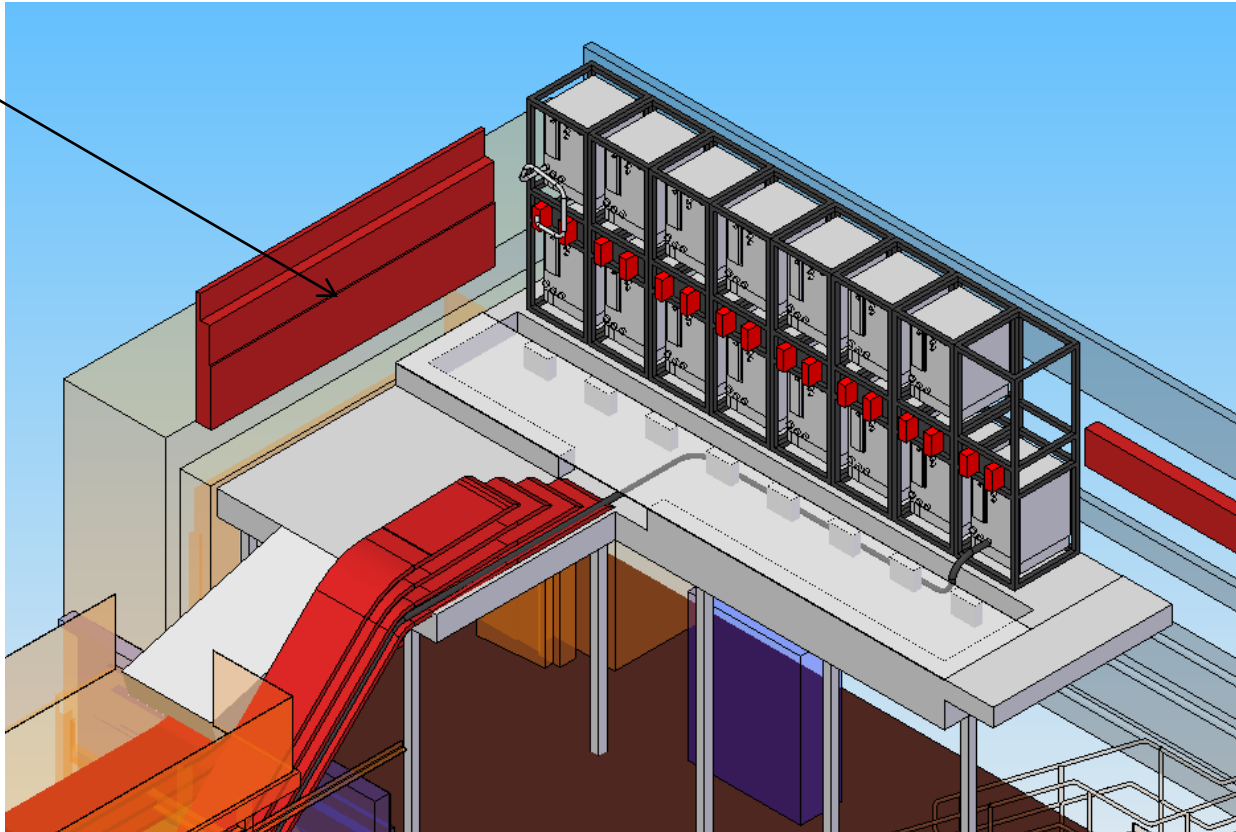
Reconfigurable  
'Hose Tidy'



# Distribution Board



Distribution Board

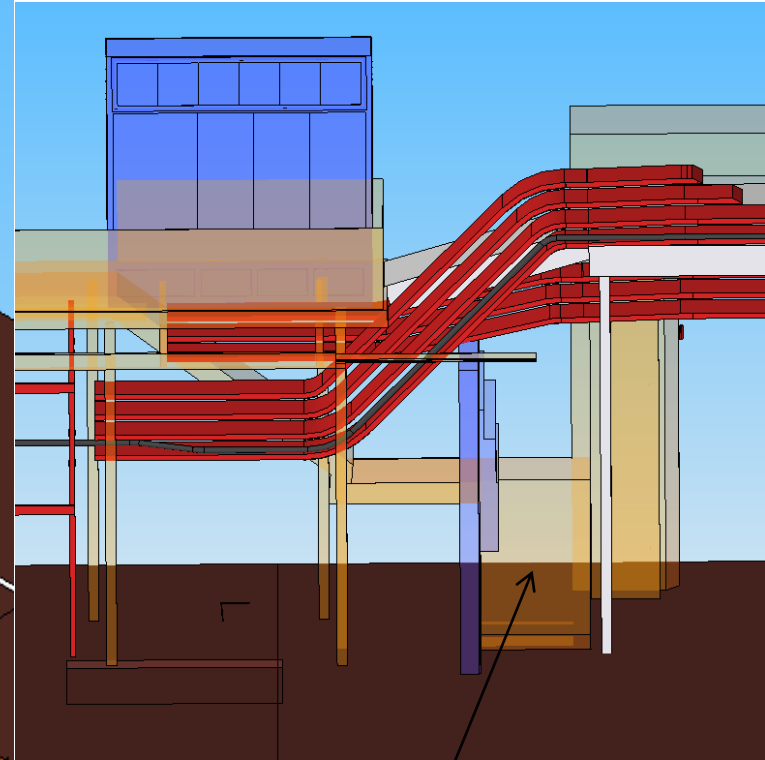
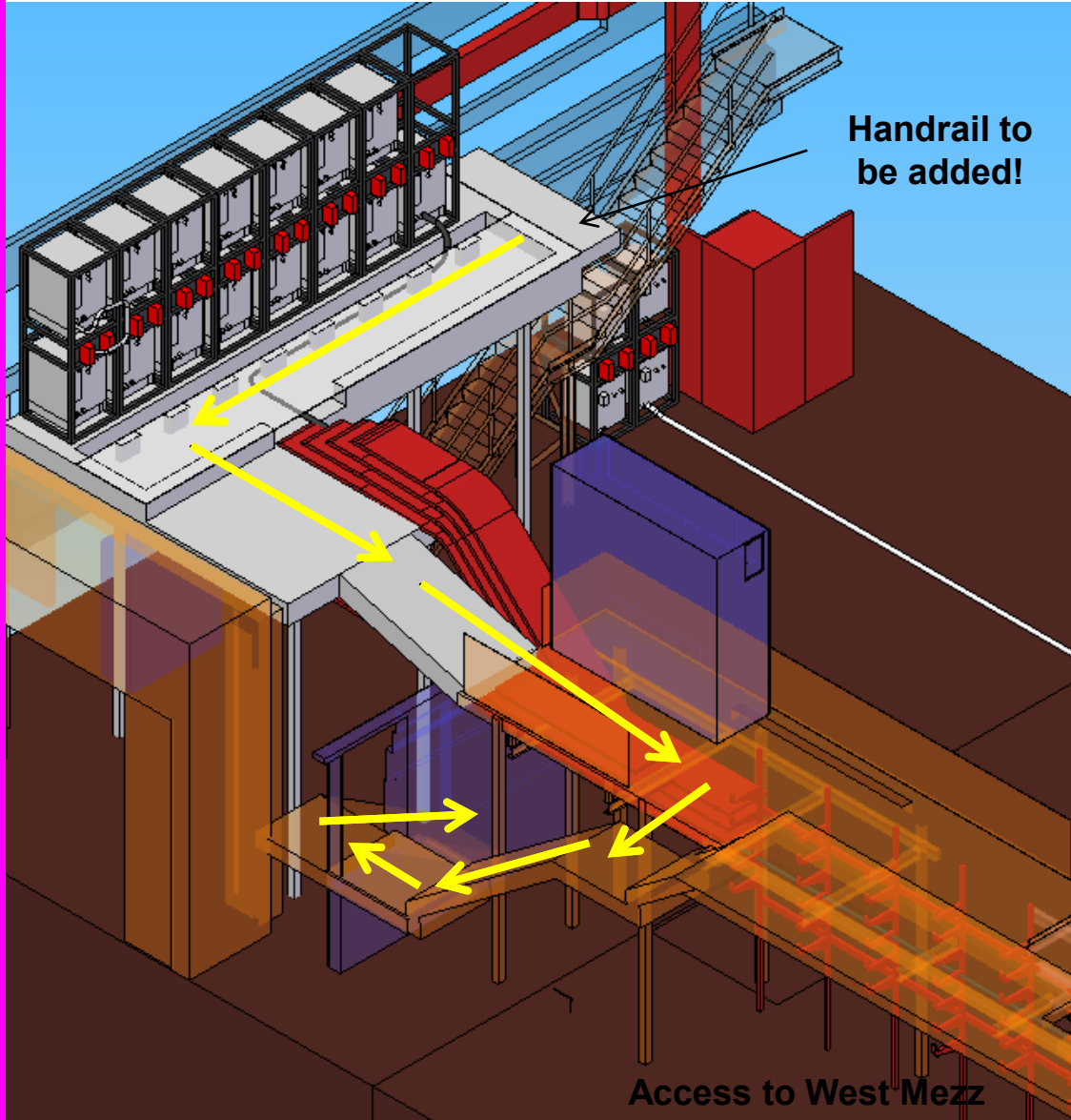
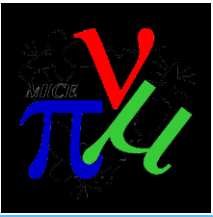


Distribution Board Location

Distribution board above Potterax door



# Access to West Mezz

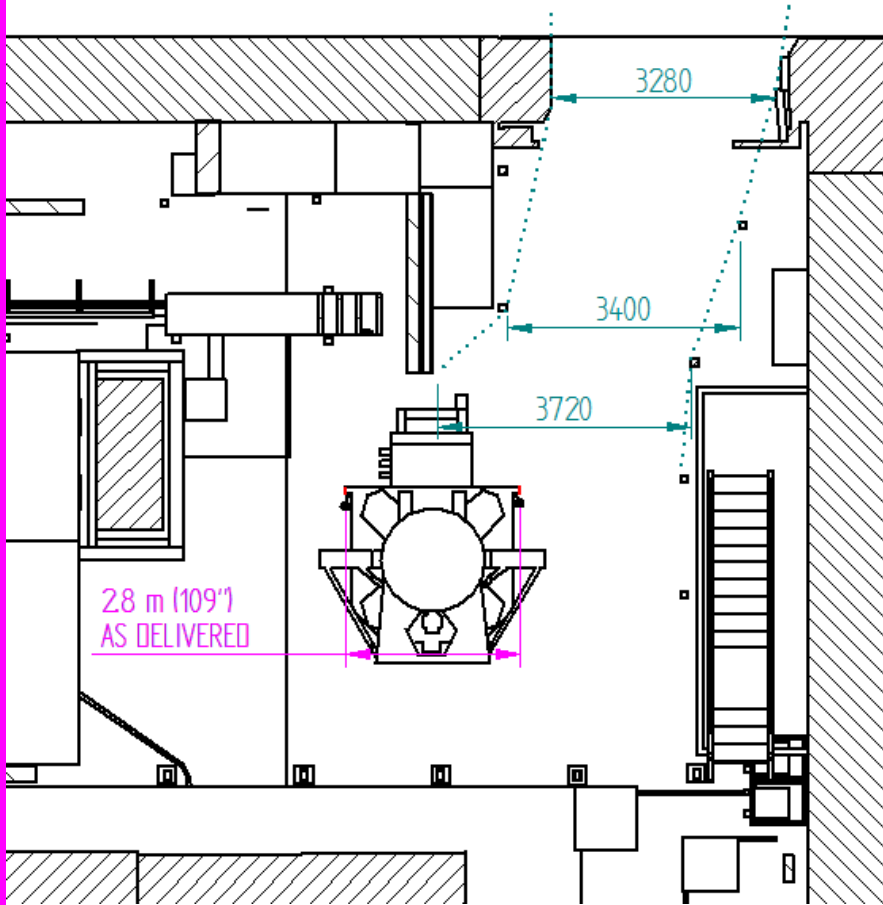
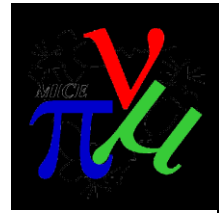


Reconfigure Stairs  
(gives headroom for  
cable trays)

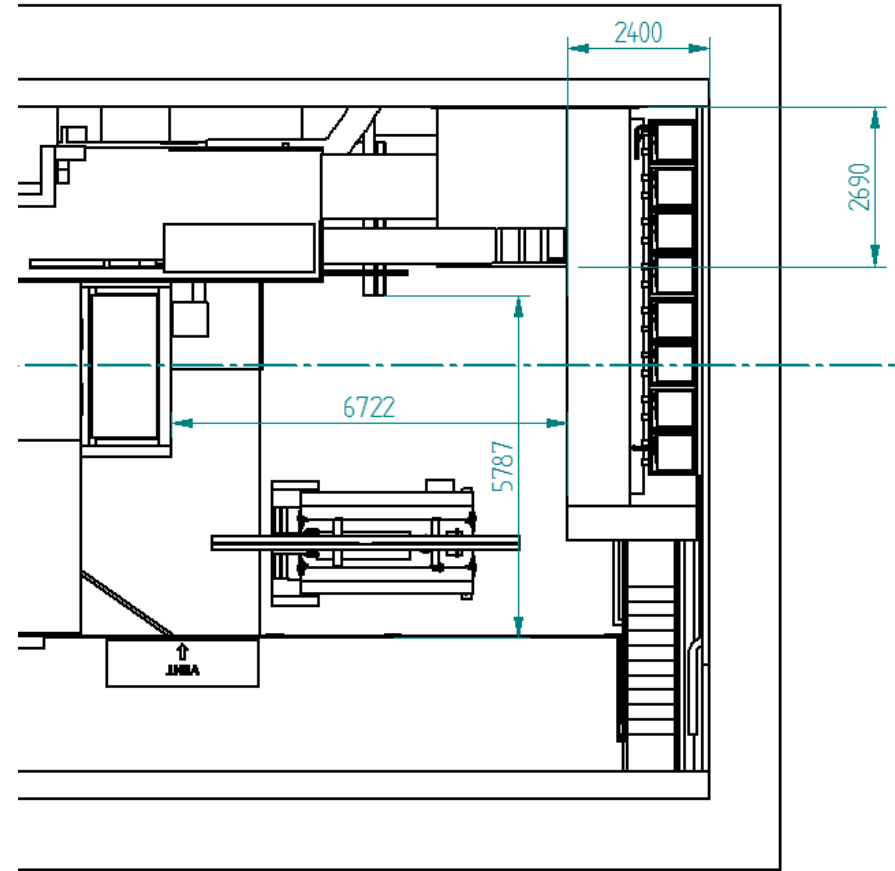
Safe & easy access & egress from  
mezzanine



# Device Reception / Assembly Area



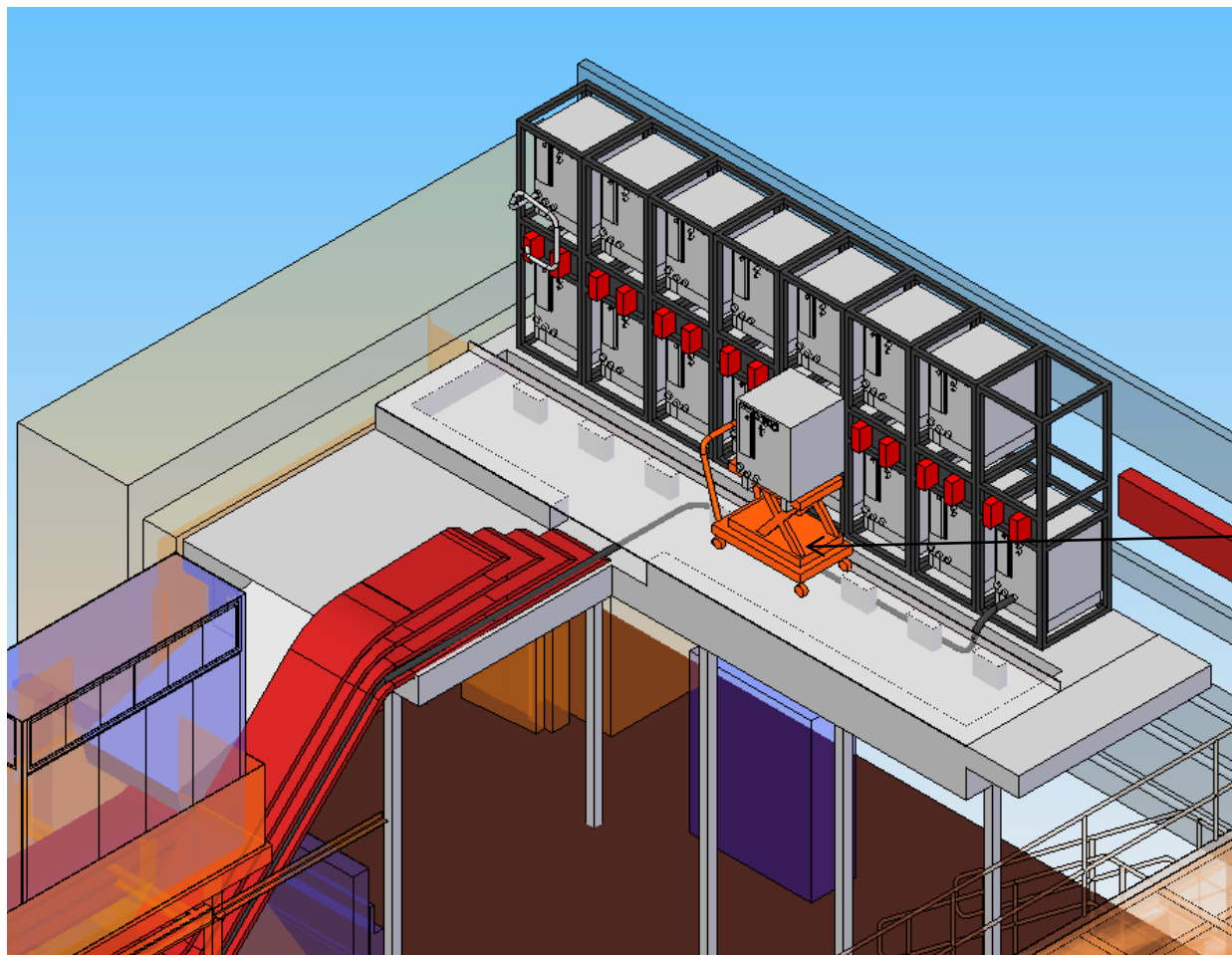
RFCC



SS

Provide reception / assembly area for the MICE devices

# Compressor Installation / Removal

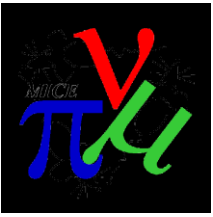


**Hydraulic  
Trolley  
(standard  
trolley  
perhaps  
modified for  
extra stability  
and height)**

**Remove compressors onto trolley, lower and move to position where crane can lift it**

Compressors removable from mezzanine

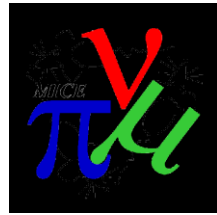
# To Do



## To Investigate

- Ensure magnetic field is low enough not to affect compressors in west wall position
- Can all cold heads / compressors accept an extra few metres of line temporarily, i.e. when devices pulled off-line on moving platforms (non operational – keep cold e.g. <math><50\text{ °K}</math>)

# Mechanical Work



## ● Installation

- Reconfigure South Mezz stairs & PPS
- Install west mezzanine platform
- Install services from south mezzanine including distribution board
- Reroute water feeds
- Modify PPS cage and area under North Mezz stairs for Sumitomos
- Install services management & compressor supports
- Fit compressors
- Run hoses & power to devices as required