MICE CM28
Engineering Session Summary
(On behalf of Wing)

- *Explanation of agenda chaos….*
- *Engineering integration – Jason/Andy*
- *Progress with the EMR - Franck*
- *RF Infrastructure and engineering - Tim*
- *Vacuum discussion – Mike C*

Andy Nichols, STFC 7th October 2010

Schedule changes

- *Two talks from DL engineers scheduled, electrical engineering and solenoid control open questions*
- *They couldn't come, talks arrived too late, but are/will be uploaded*
- *Latter topic is important – Andy will try to follow up…*
- *Also fitted in a discussion about insulating vacuum strategy – Mike Courthold*

Engineering integration

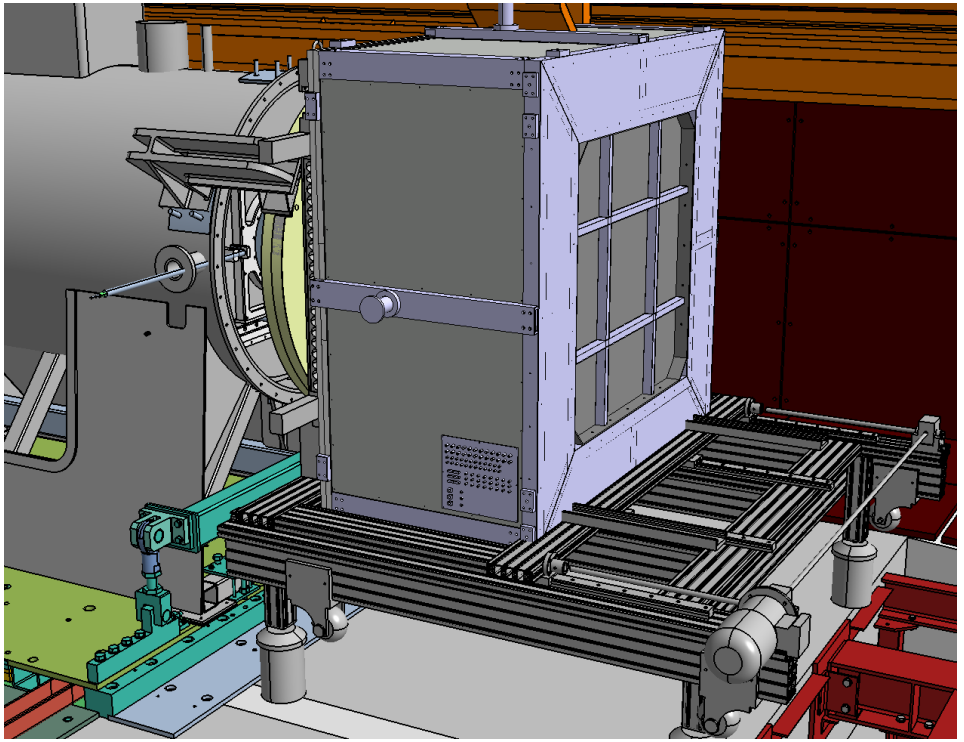
- *List of inputs clearly defined:*
- *System 3D models from MICE at large*
- *2D drawings*
- *Design data*
- *Inspection and metrology data*
- *Outputs:*
- *Top-level CAD assembly*
- *2D interface and envelope drawings (the most important thing)*
- *Geometry information*
- *Drawing and technical data repository – long overdue!*
- *Change request and control mechanism – methodology has been proposed to MICE Technical Board*
- *Much still to do, but a good start – several engineering cultures to be brought together*

Progress with EMR

- *8 EMR planes are complete, out of 48, 10 additional planes by end November, 2010*
- *Storage of completed planes difficult, but trolley made which protects fibres*
- *Need to make sure we clarify the orientation of the 64pixel square phototube connector*
- *May need to revisit magnetic shielding calculations in light of RAL magnetic modelling error – Franck & Mike C will liaise – not clear that EMR is affected though*
- *Final EMR assembly scheduled for Mid-2011*
- *Make sure we have importation papers understood in good time*
- *Outer box is designed, patch panel well-defined*
- *Magnetic shielding is now integral – Blondel plate*

EMR Integration

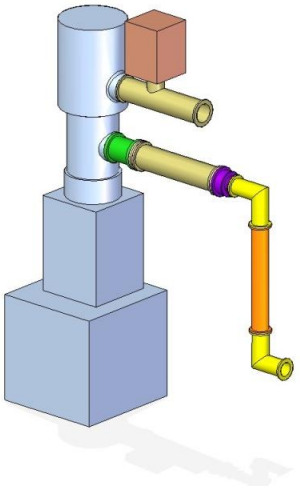
- *It's now big and heavy….*
- *2.5 tonnes*
- *Will have to adapt KL trolley for clearance*
- *And make new independent frame for EMR, mounted to floor, with adjustments in X&Y*
- *But there's a solution*
- *Useful discussions this week*
- *INFN staff will also visit Uni Geneva*
- *This is one ingredient in re-defining the 2011-2012 plan*

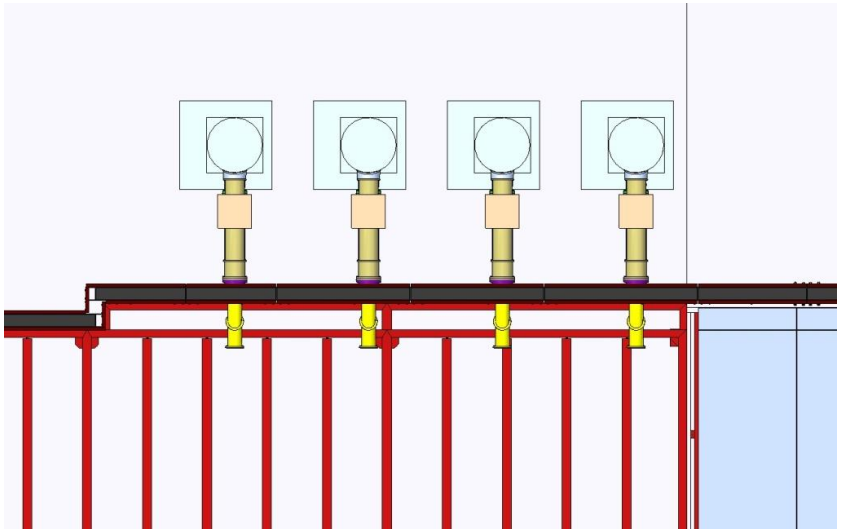


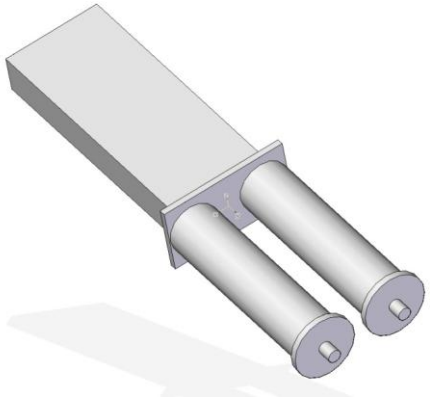
RF Infrastructure in MICE Hall

- *Made a good start, meeting has been scheduled to discuss mounting of first amplifier in MICE Hall*
- *CAD modelling has started, but is limited by availability of advice from RF-type staff*
- *Amplifiers are mounted behind shield wall of course*
- *Maybe possible to rotate on vertical axis by 45deg, avoids penetrating the wall*
- *Phase-shifter will be first major component to fit*
- *Need to be aware of maintenance/replacement access to amplifiers and hardware*

RF Infrastructure







Vacuum discussion

- *How to preserve insulating vacuum of all subsystems at the right level in all conditions? Some open questions:*
- *Type of pump? Continuosly pumped or valved off? What happens in quench? Uniform (minimum) size of pumping ports? Finding a gauge that works in magnetic field?*
- *Consensus is that we take a kind of 'worst case' in that all systems can be pumped continuously*
- *Basic layout drawing of spectrometer solenoid vacuum requirements in simple terms is done – very welcome, need to do for each system*
- *Need a drawing of manifolding, valve & pump layout in MICE Hall – Matt/Tim will start this*