






Summary of Photon System Parallel

Tobias Haas
Technical Meeting
9 April 2014

Overview of the session



Tue 08/04

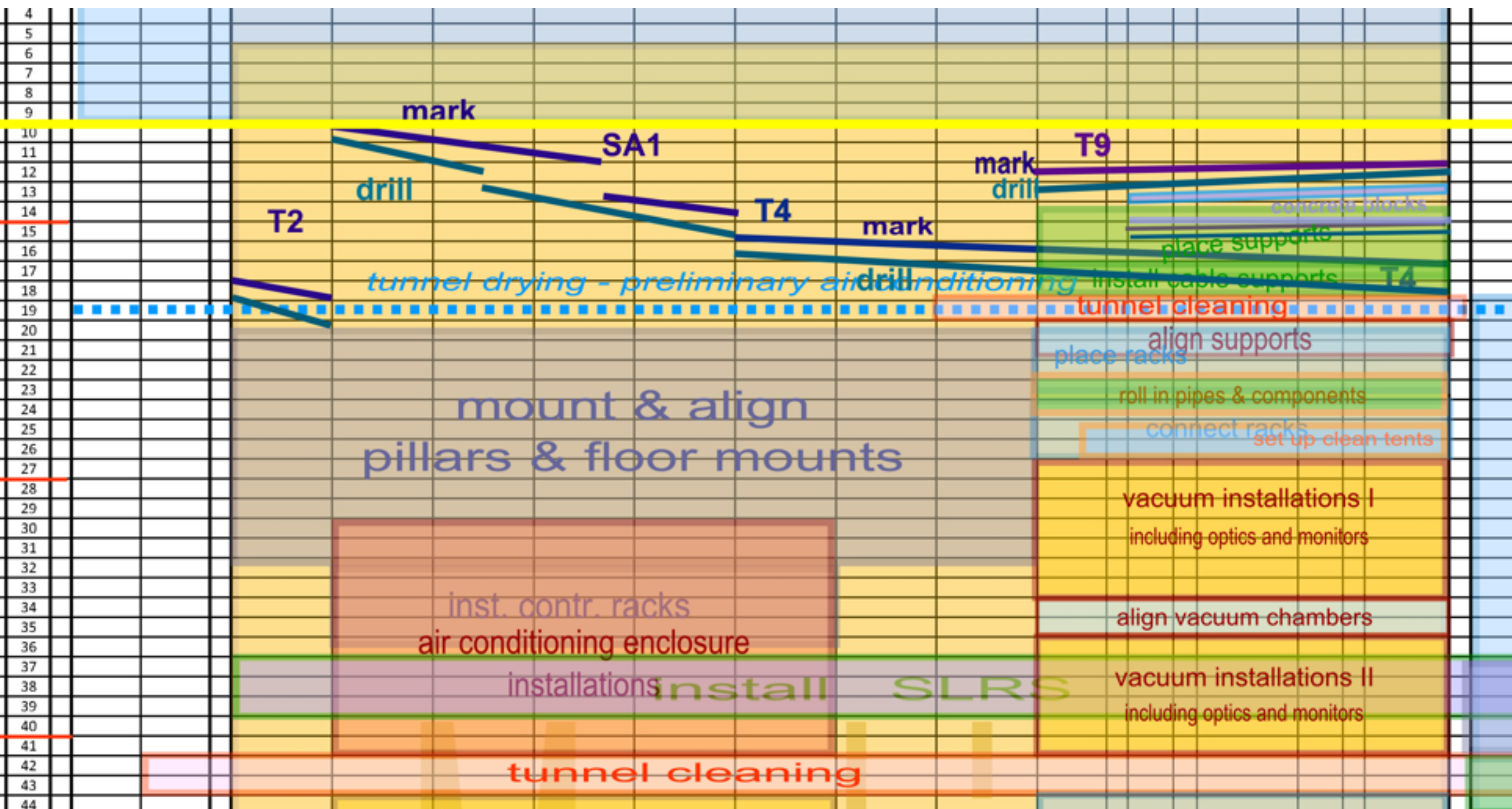
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16:00	Status and Prospects XTD1-10 and Shafts <div>HAUSCHILDT, Jan</div> <div>Bldg 1b, SemRm 4 a/b, DESY</div>	16:00 - 17:15
17:00	Short break	
	Major activities in the experimental hall - 2013 - 2015 <div>WELLENREUTHER, Gerd et al.</div>	
	XHEXP1 safety concepts <div>KOZIELSKI, Sigrid et al.</div>	
18:00	Progress of planning and execution in XHEXP1 <div>DOST, Per</div>	
	XFEL XHEXP1 Hutches - Building Services – Media Supply <div>STEIGER, Ronald</div>	
	Grounding in XHEXP1 <div>KAPITZA, Herbert</div>	

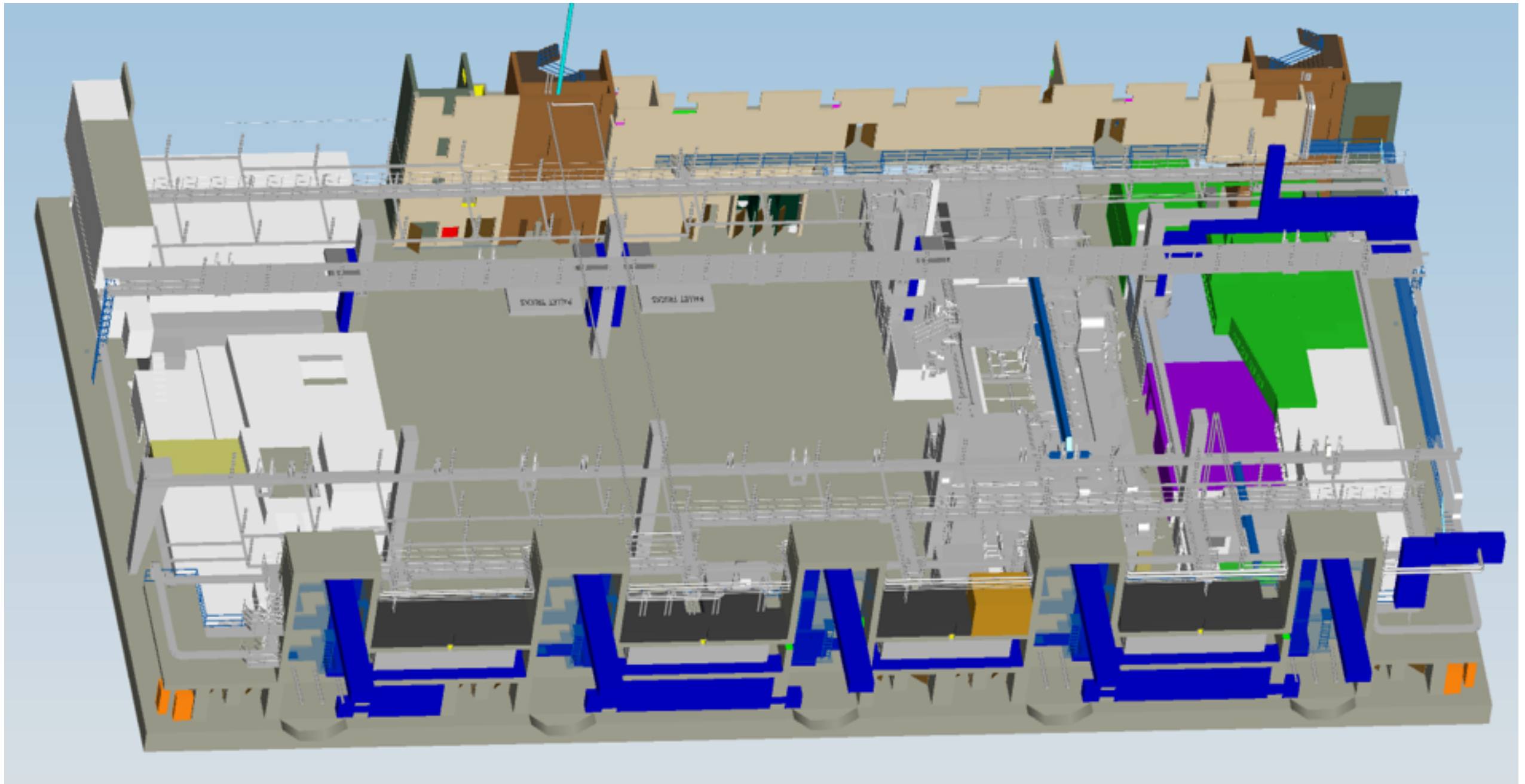
19:00



Planning SASE1



April 2014: CAD-Master model



Achievements in Safety and Radiation Protection



- Occupational Safety and Radiation Protection
 - Gathering information for access control system
 - Shielding requirements for hutches defined including design of chicanes
 - First outline of personnel safety system available
 - Fire protection requirements for hutches clarified

- Outlook:

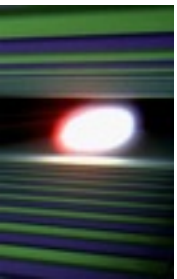
- Continuation of Laser and Radiation Safety
 - Reconfirmation of safety concept

Talk by Eric Boyd (XFEL SR)

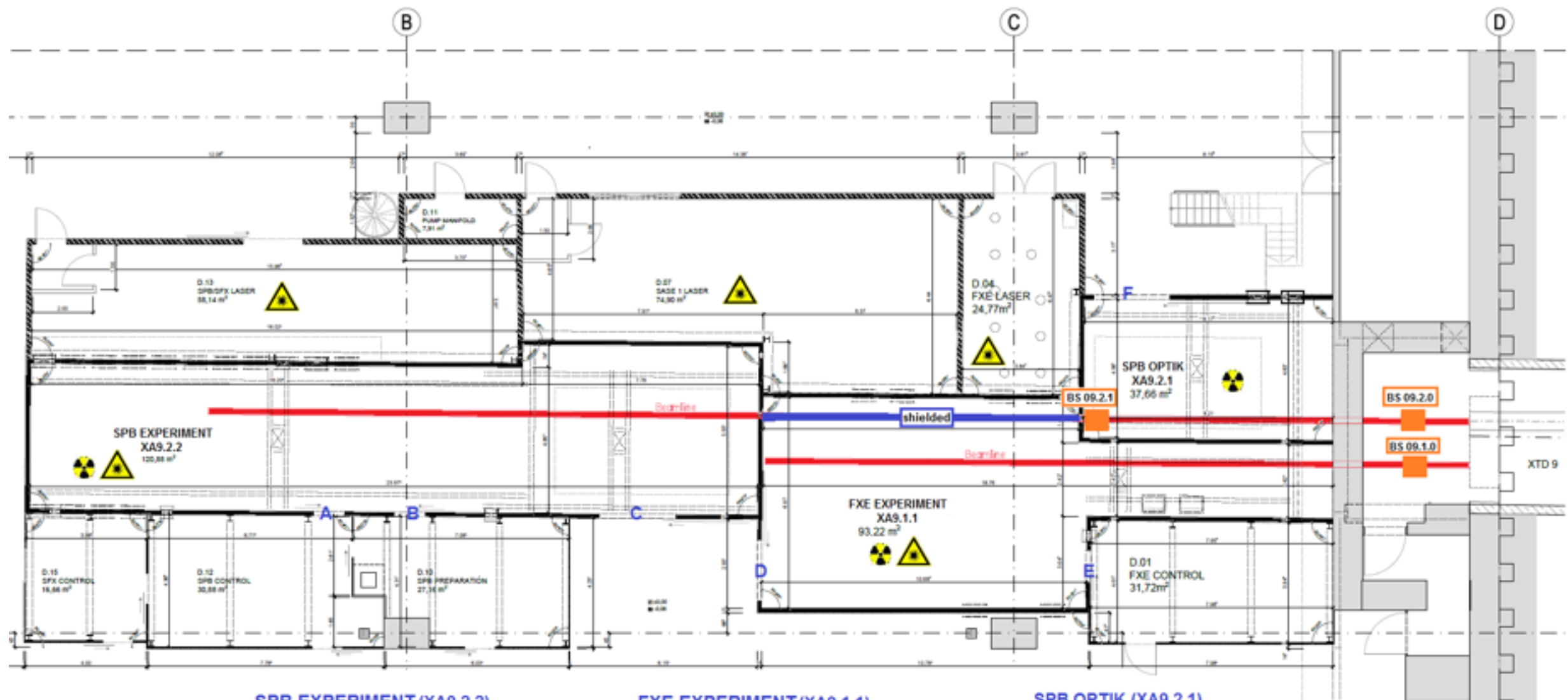
risk assessment tool for experiments

7-2014

Personnel Safety System in SASE1



XHEXP1 SASE 1



SPB EXPERIMENT (XA9.2.2)

- A. 9.2.2.D3 Sliding Primary
- B. 9.2.2.D1 Sliding
- C. 9.2.2.D2 Sliding

FXE EXPERIMENT (XA9.1.1)

- D. 9.1.1.D2 Sliding
- E. 9.1.1.D1 Sliding Primary

SPB OPTIK (XA9.2.1)

- F. 9.2.1.D1 Sliding Primary

Achievements Hutches



- SASE 1 hutches: cardboard-box model → detailed model
 - Choice of preferred wall construction method
 - Realistic wall thicknesses, chicanes for infrastructure etc.

■ Outlook:

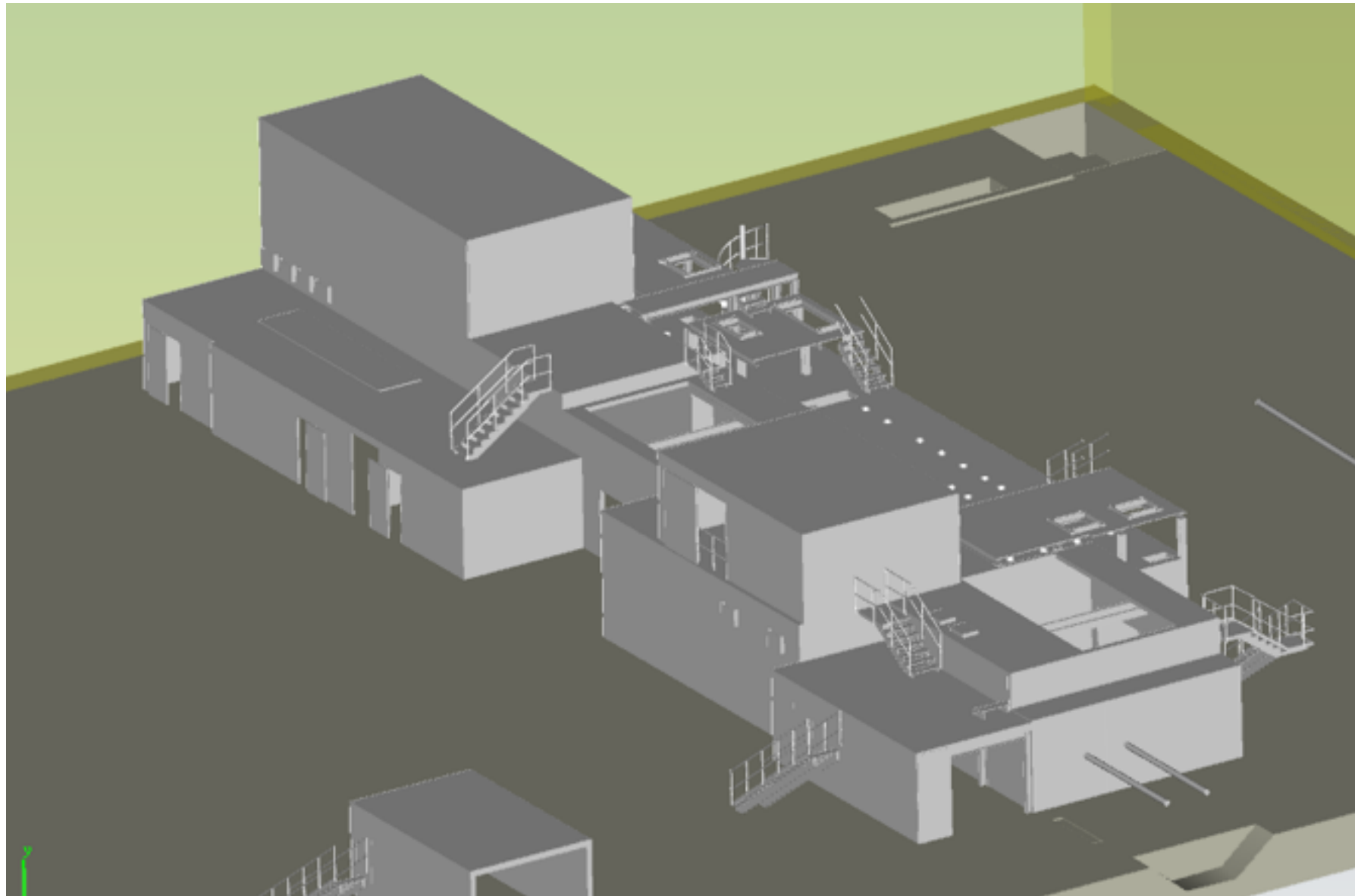
- Prequalification-process – End of April
- Selection of qualified participants – End of May
- Submission for call for tender – End of June
- Selection of contractor & award of contract – End of July
- Execution planning – August + September
- Prefabrication – October + November
- Installation of SASE1 hutches

Talk by Per Dost (WTM)

■ SASE 1 infrastructure

- Requirements: Several iterations with instruments & DERU
- Placement on top of the hutches w/o

- **Hutches for SASE1 on two floors**



Achievements Instrument Infrastructure



- Instrument infrastructure
 - Gathering requirements: Several iterations with Instruments, Lasers & DERU
 - Placement on top of the hutches without affection NANO-E
 - Space for air chicanes / alternative solutions were found

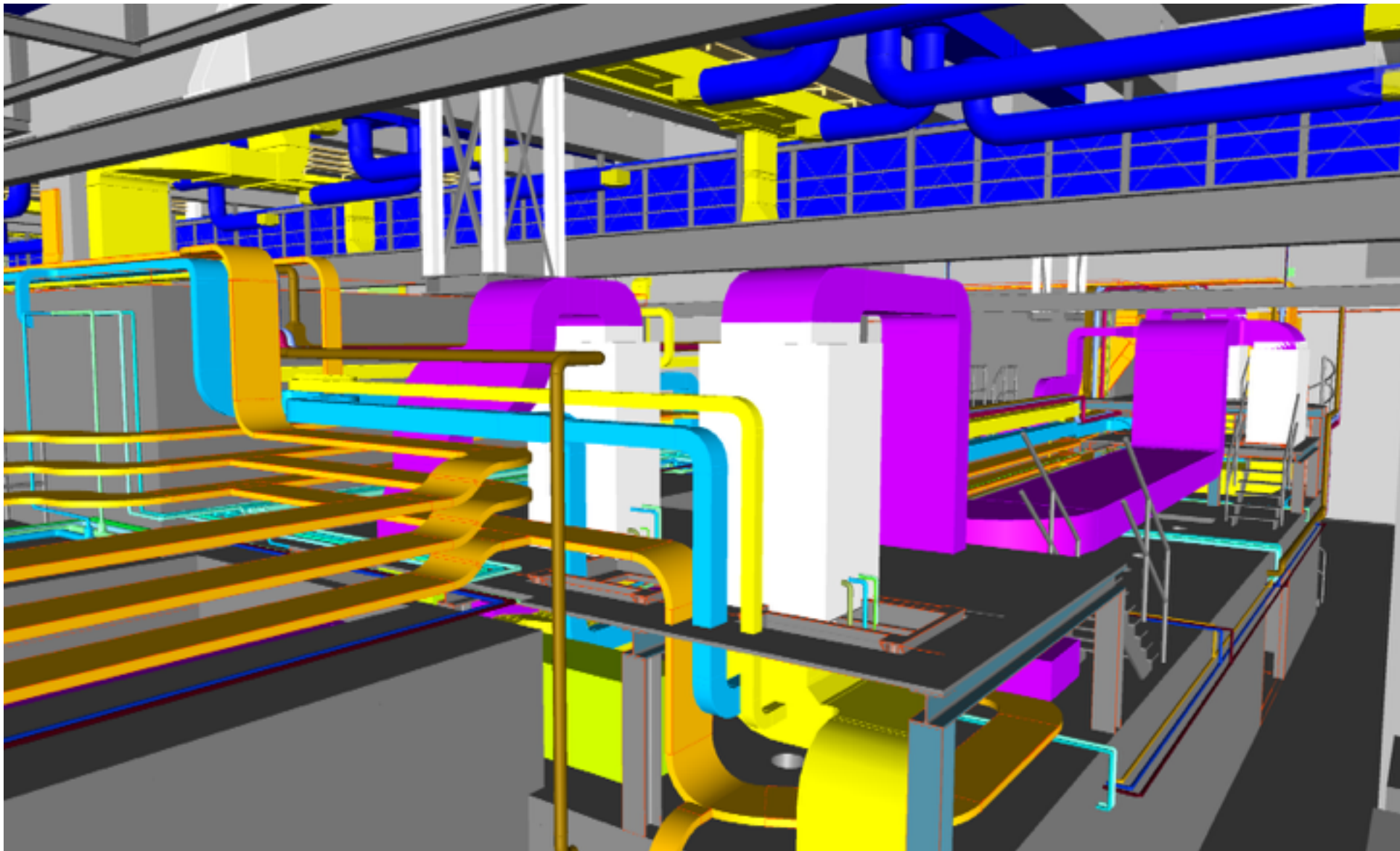
- Outlook:
 - Independent Review - 14th May 2014
 - Execution planning phase SASE1
 - Draft planning SASE3 using the
 - Call for
 - Ex
 - Dra

Talk by Ronald Steiger (DERU)

Basic Design

SASE 1

Exterior view



Time schedule



- Detail design for SASE 1 → **until Aug, 2014**
- Specification of tenders, call for tender and assignment → **until Feb, 2015**
- Start of installations
- Completion → **from Apr, 2015**
- Transfer of the approach (from technical solution, procurement until completion) for SASE 2 and 3 → **until Dec, 2015**
- **follows the process for SASE 1**

Achievements Grounding Scheme



Instruments:

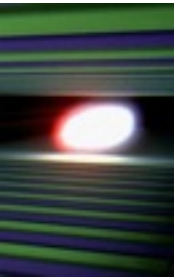
- Would like to be isolated for the purpose of signal processing
- Need X-Rays, power, IT, climatization...
- Separation of entire SASEs from the „outside world“

Infrastructure planner:

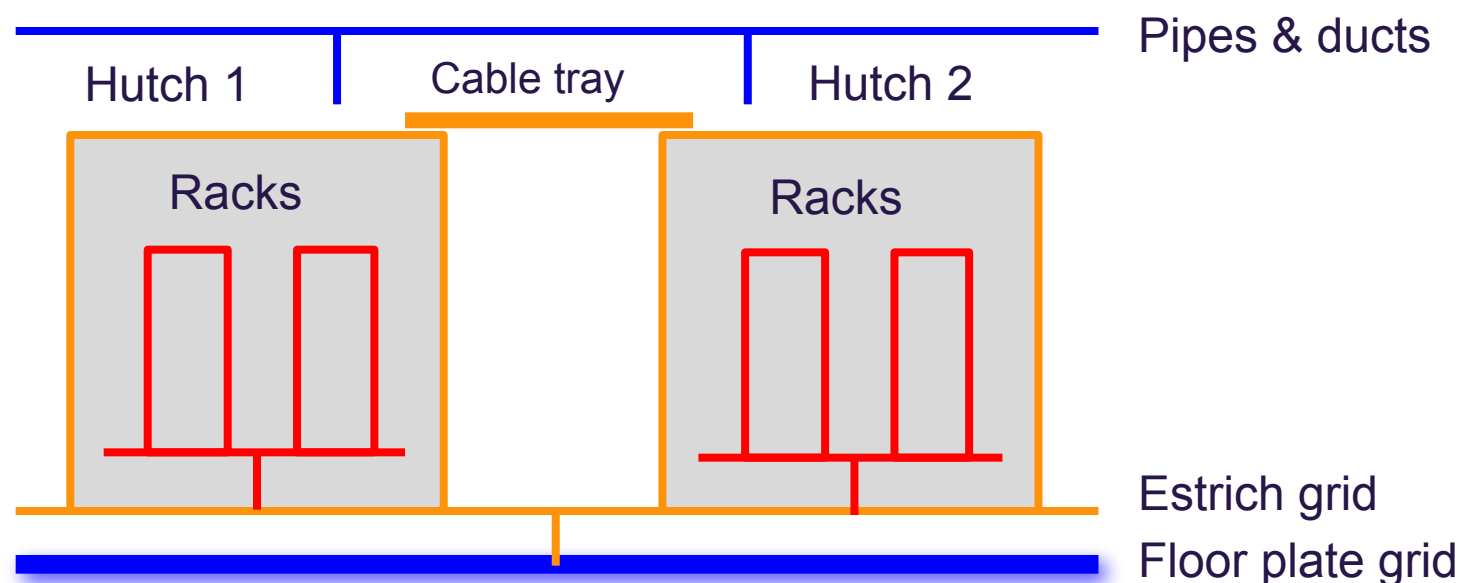
- Cost effort for entire separation of SASEs is extremely high
- Rather be careful in the experiment design
- Ground SASEs to hall level / building earth

Talk by Herbert Kapitza (DESY)

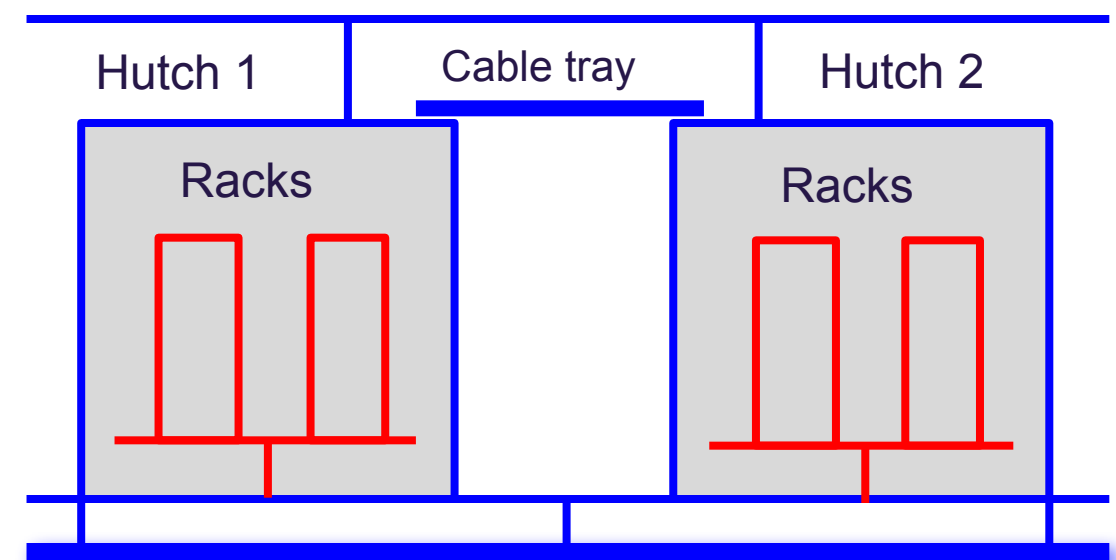
Grounding Concepts for the SASE1 Area



- On the floor plate of XHEXP1 there will be a **6 cm thick cement layer (Estrich)**.
- Separate for each SASE area there will be a **grounding grid** a few cm deep inside the Estrich.
- This grounding grid is made of **point-welded reinforcement steel mats** (15 cm mesh size) which in turn are **connected every 2 m**.
- To **which grounding hierarchy level** should the Estrich grid belong?



SASE1 infrastructure on **intermediate level**,
single-point connected to hall ground plane



SASE1 infrastructure on **hall ground level**,
being part of the hall ground plane

- For the Photon System Installation we are entering the hot phase both in the tunnels and XHEXP1
- This is untried territory for most players
 - Systems and Teams are untried
- Generally there is excellent progress
 - We finally know what we are going to build... but
- we are stumbling in unexpected places
 - Civil Construction/Procurement
- A lot of attention and dedication is required in the next couple of months



All Hands are needed to stay on course!