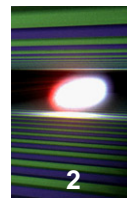




User laboratories for sample preparation

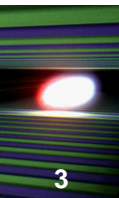
Joachim Schulz

Some considerations

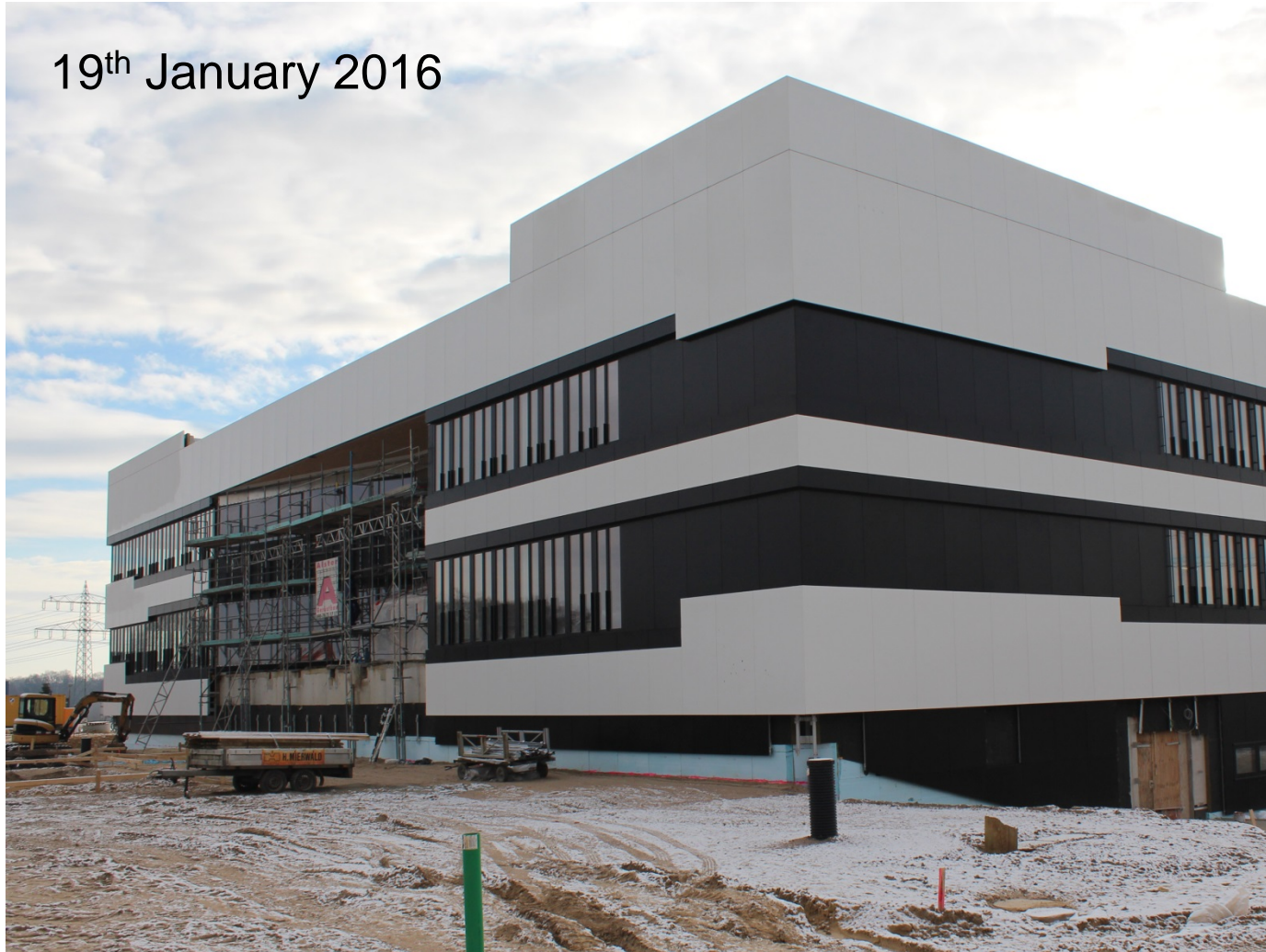


- Samples/targets are often the key to a good experiment
- Users are experts in preparing their samples
- Usually users will bring their own samples
- European XFEL will provide user laboratories for:
 - Modifications of samples during beamtime
 - Just-in-time production of volatile samples
 - Inspection of samples before and after the experiment
- Some of these tasks are time critical
 - Can become necessary in the middle of the night
 - This makes it impractical to go to e.g. DESY
- Access to the laboratories will be granted together with beamtime

European XFEL head quarters (XHQ)

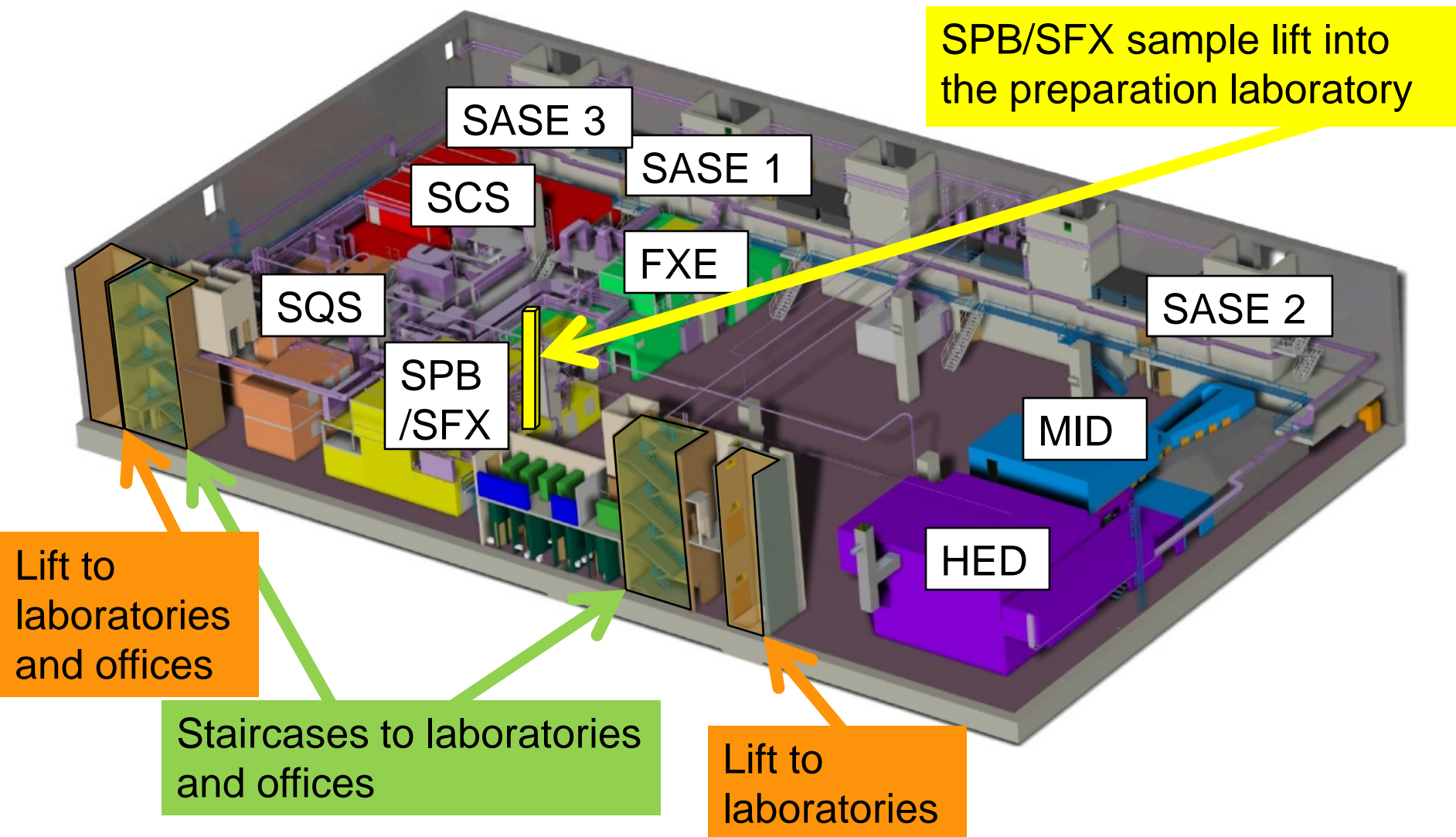


19th January 2016

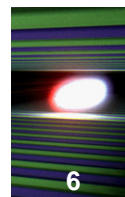


The experimental hall (XHEXP1)

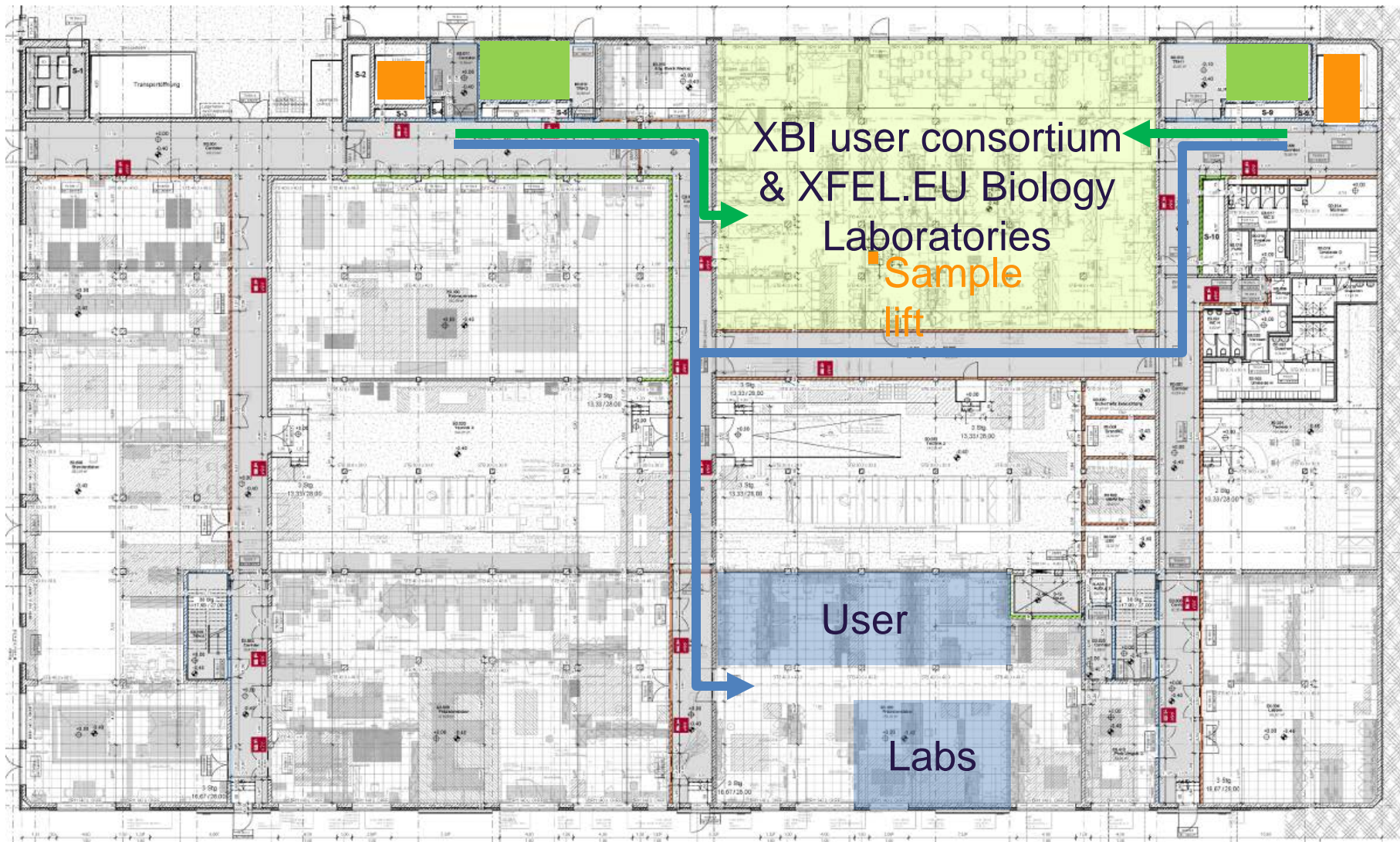
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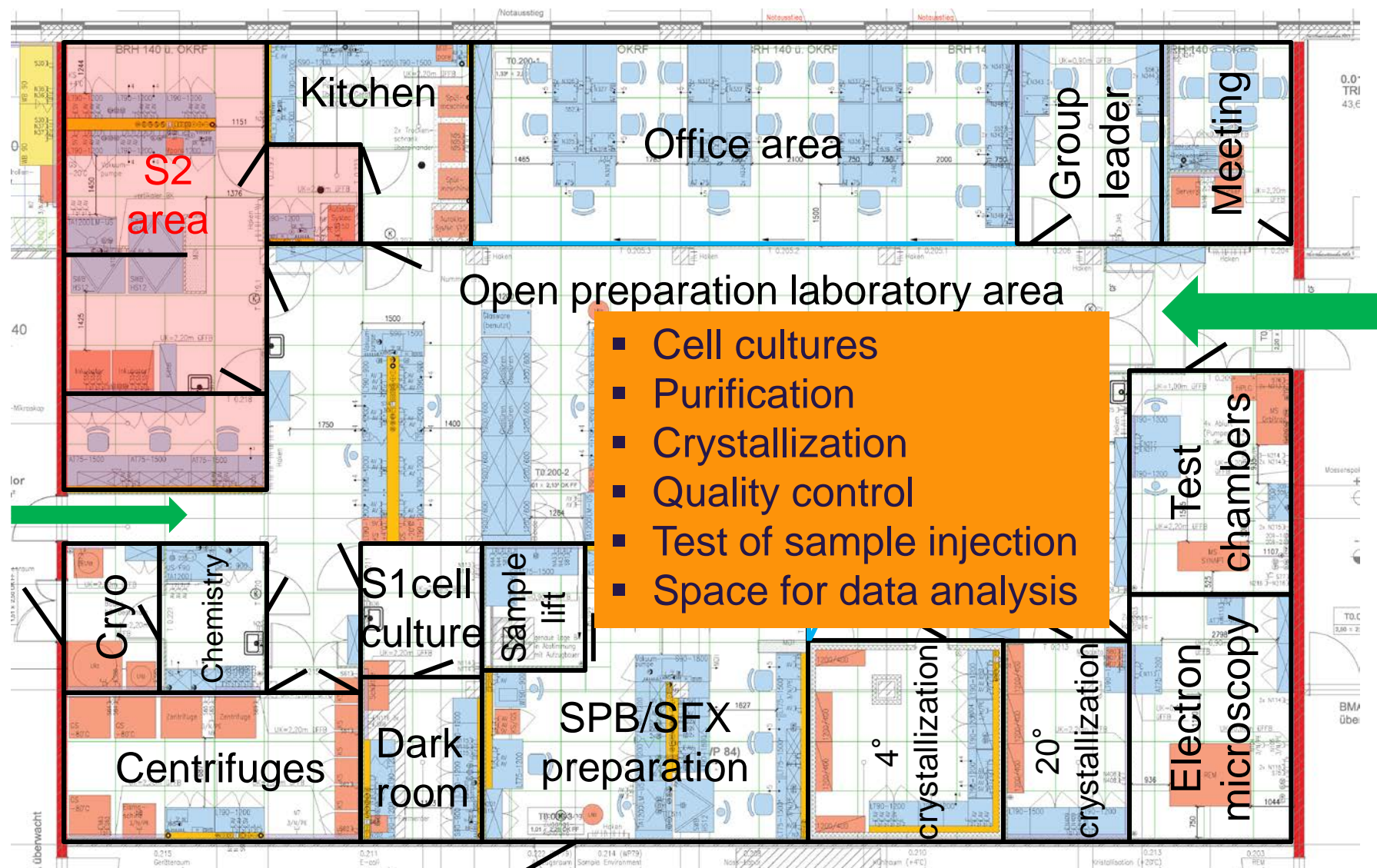
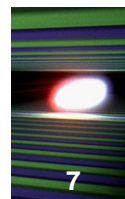


User laboratory areas



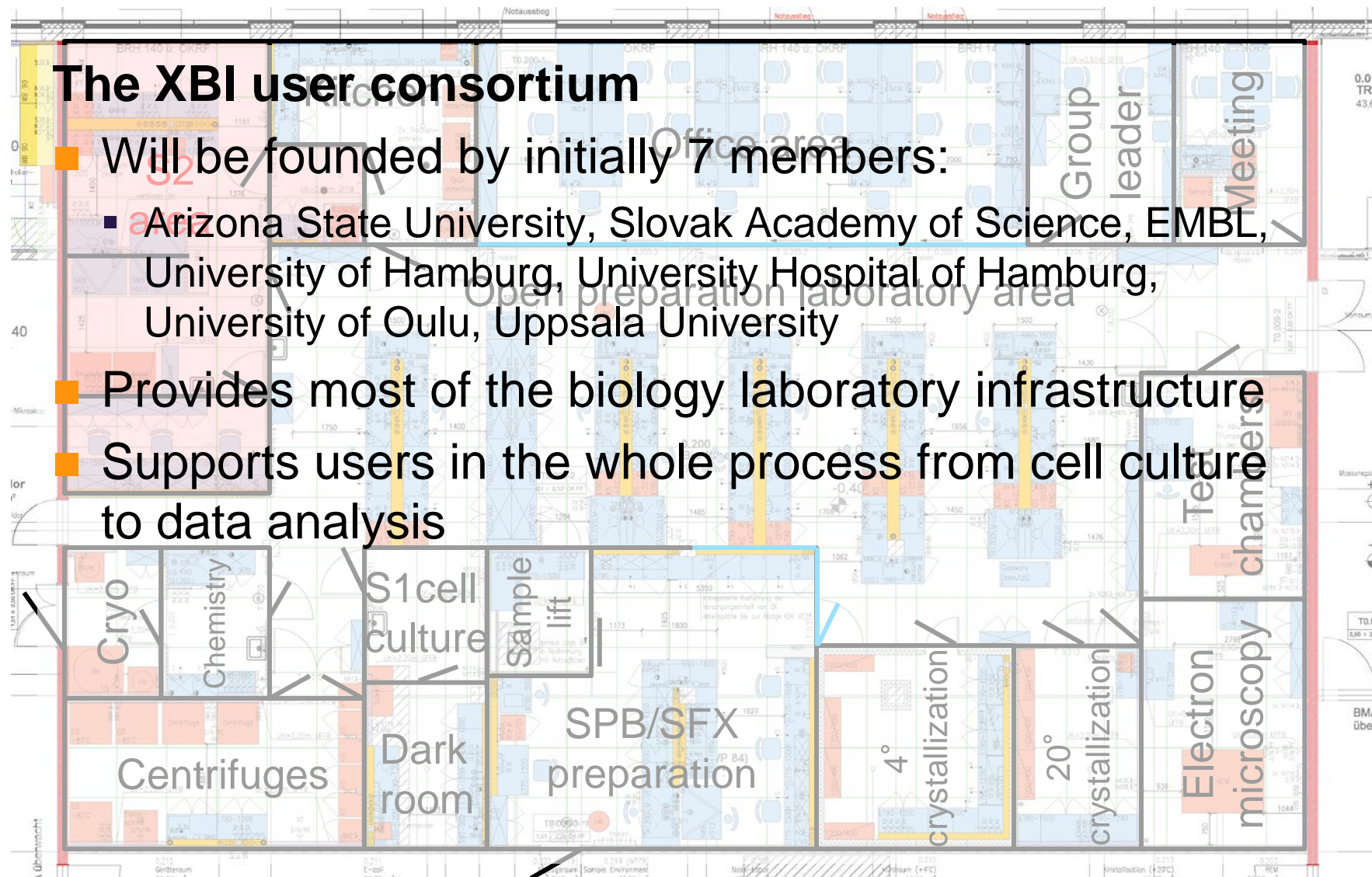
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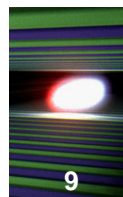




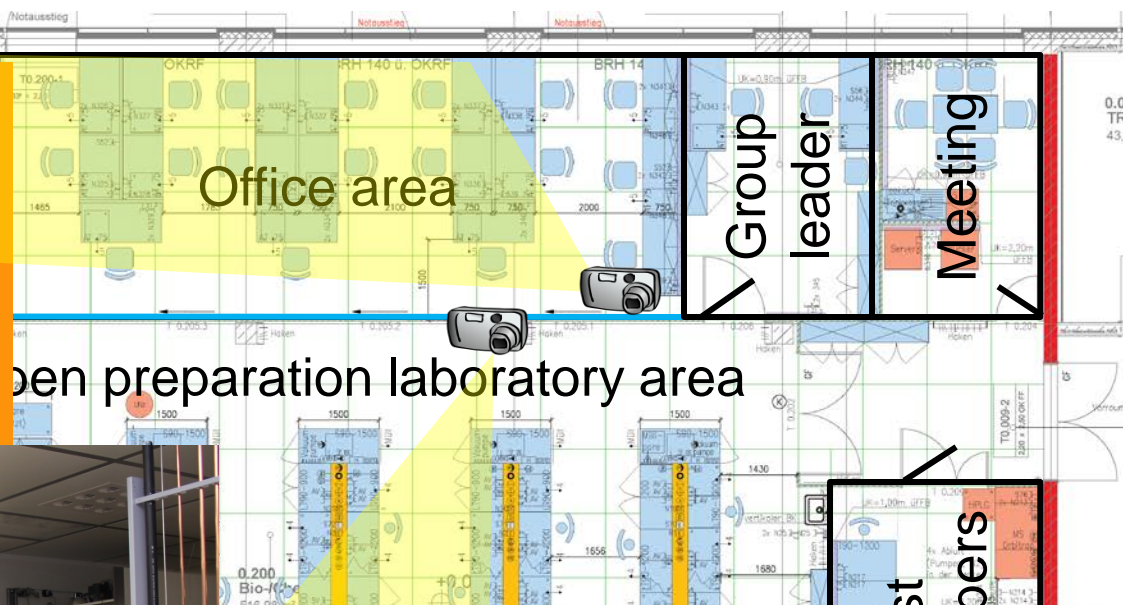
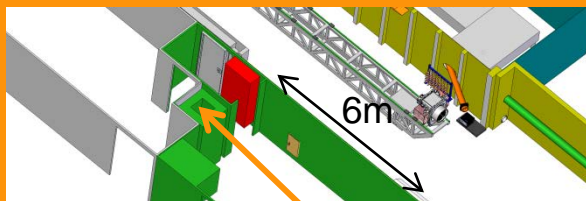
The XBI user consortium

- Will be founded by initially 7 members:
 - Arizona State University, Slovak Academy of Science, EMBL, University of Hamburg, University Hospital of Hamburg, University of Oulu, Uppsala University
- Provides most of the biology laboratory infrastructure
- Supports users in the whole process from cell culture to data analysis





Lift to S1-biology preparation hutch



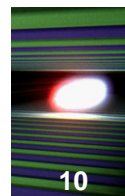
19th January 2016

SFX
station

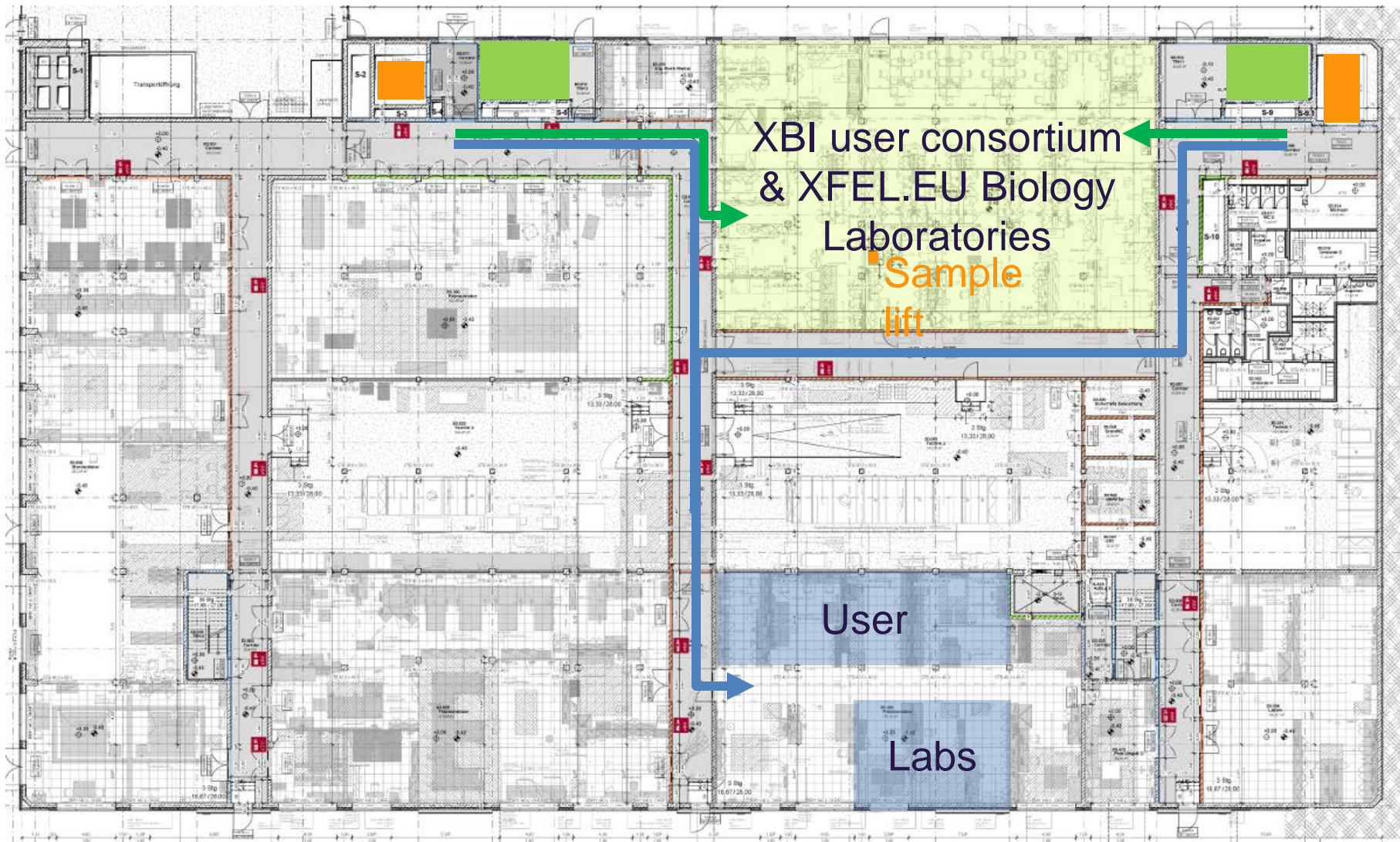


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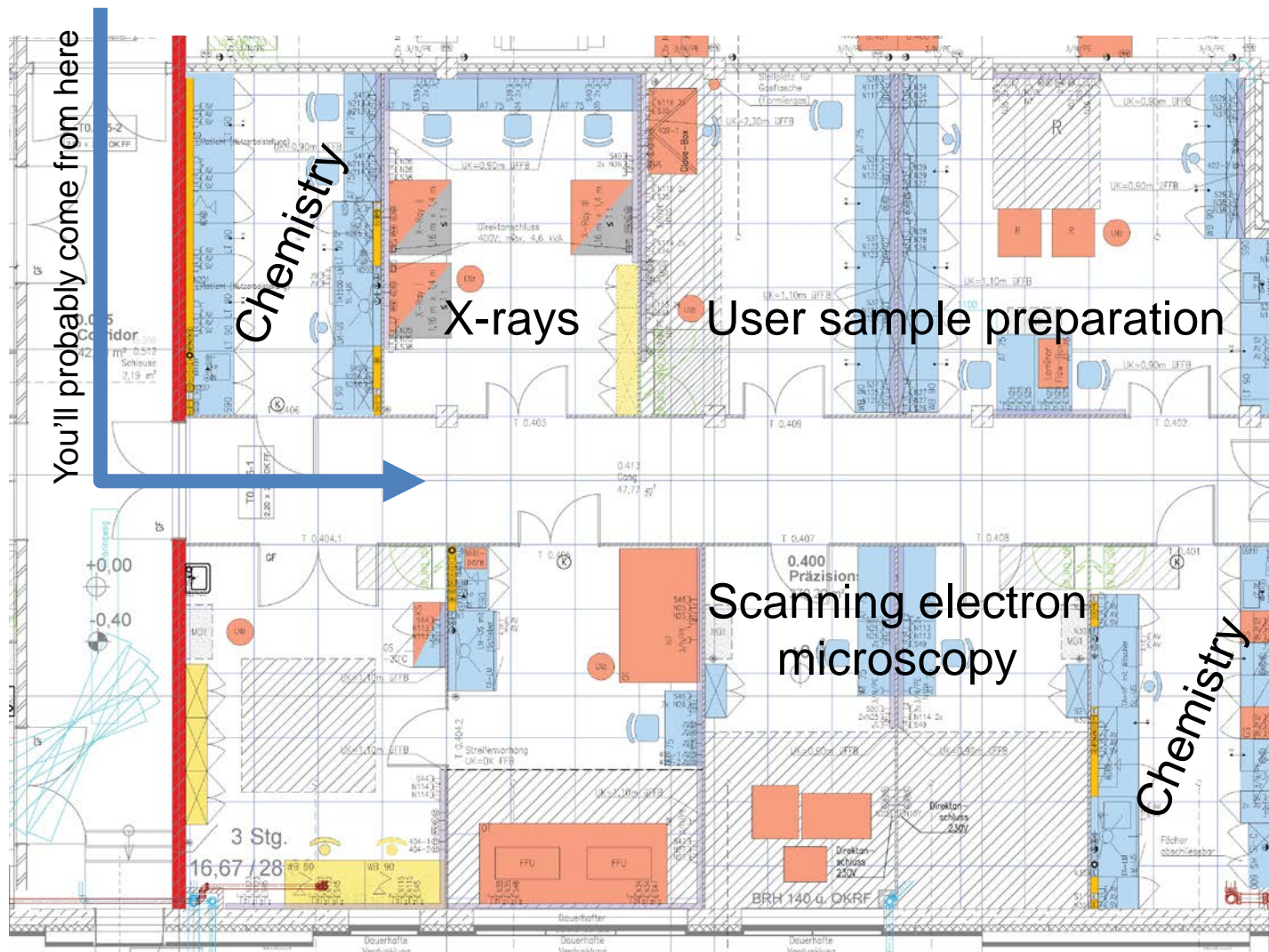
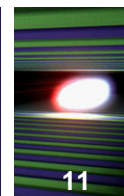
User laboratory areas



10



Non-biology user laboratories



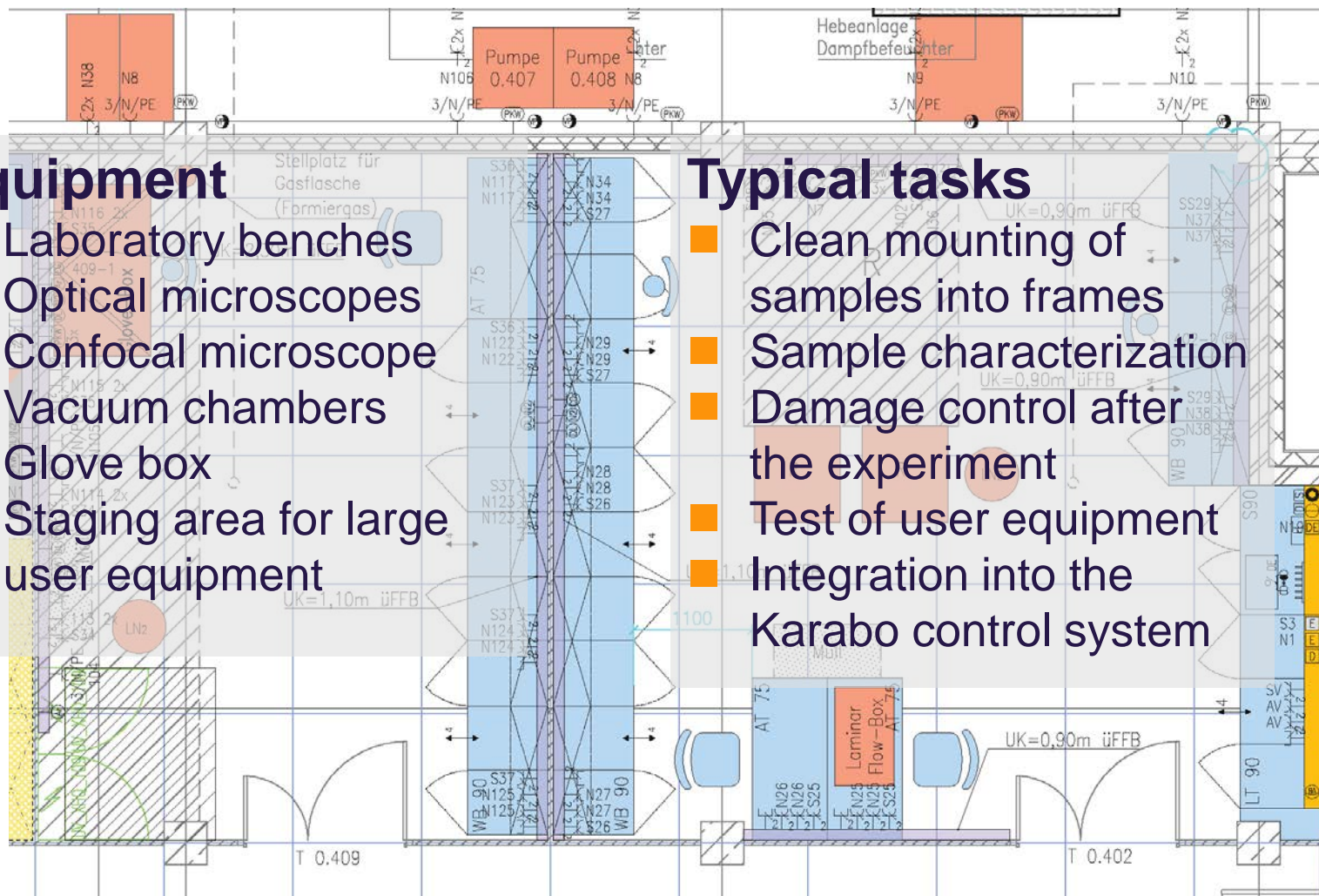
User sample preparation

Equipment

- Laboratory benches
- Optical microscopes
- Confocal microscope
- Vacuum chambers
- Glove box
- Staging area for large user equipment

Typical tasks

- Clean mounting of samples into frames
- Sample characterization
- Damage control after the experiment
- Test of user equipment
- Integration into the Karabo control system



Chemistry room

- Two fume cabinets
- Equipped for hydrofluoric acid
- Wet chemical sample preparation
- Possibility for mirror cleaning

Dark room

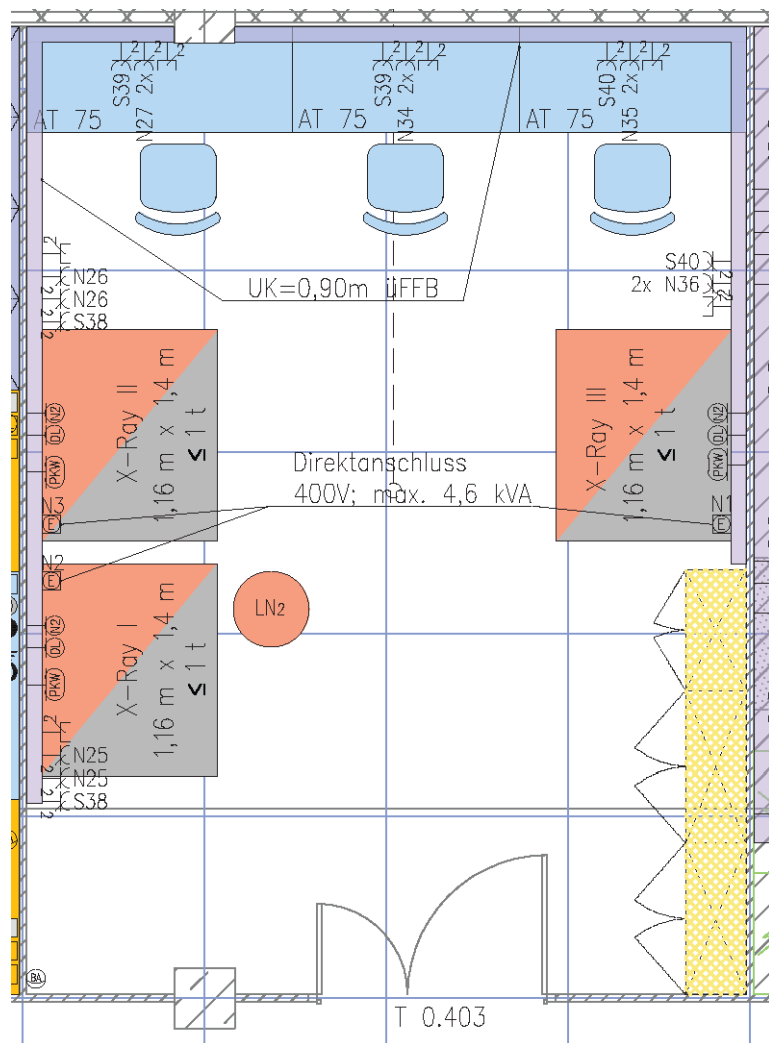
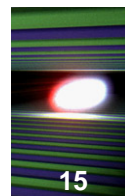
- Another fume cabinet
- Equipped for handling light sensitive samples

**It's impossible to be prepared for everything!
Please contact us when you have special requirements.**



- Test & development of liquid jets
- Inspection of wet samples
- Fast pump cycles

- Surface science
- Edging and depositing of calibration and reference patterns



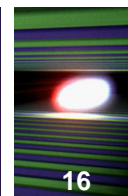
X-ray generators

- Powder diffractometry
- SAXS
- Rocking curves of mirrors and crystals
- Photoelectron spectroscopy

- Sample development
- Quality control

- Room for up to three devices





WP79 Sample Environment



Contacts

Carsten Deiter for solid state
Rita Graceffa for Liquids
Kristina Lorenzen for biology
James Moore for magnetism
Prasad Thute for SPB/SFX
Joachim Schulz for everything

User office

Silvia Bertini
Gabriela Heeßel

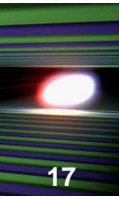
XBI user consortium

Coordinator:
Inari Kursula

Safety and radiation protection

Sigrid Kozielski
Eric Boyd
Michael Prollius
Sabrina Scherz

Conclusions



- We prepare user laboratories for
 - sample preparation
 - test of user equipment
 - quality control
- Biology laboratories will be equipped and operated by the XBI user consortium in cooperation with the sample environment group
- Special laboratories for
 - Chemistry
 - Scanning electron microscopy
 - X-ray equipment
- Contact: Joachim.Schulz@xfel.eu