Engineering & Imaging STAP update

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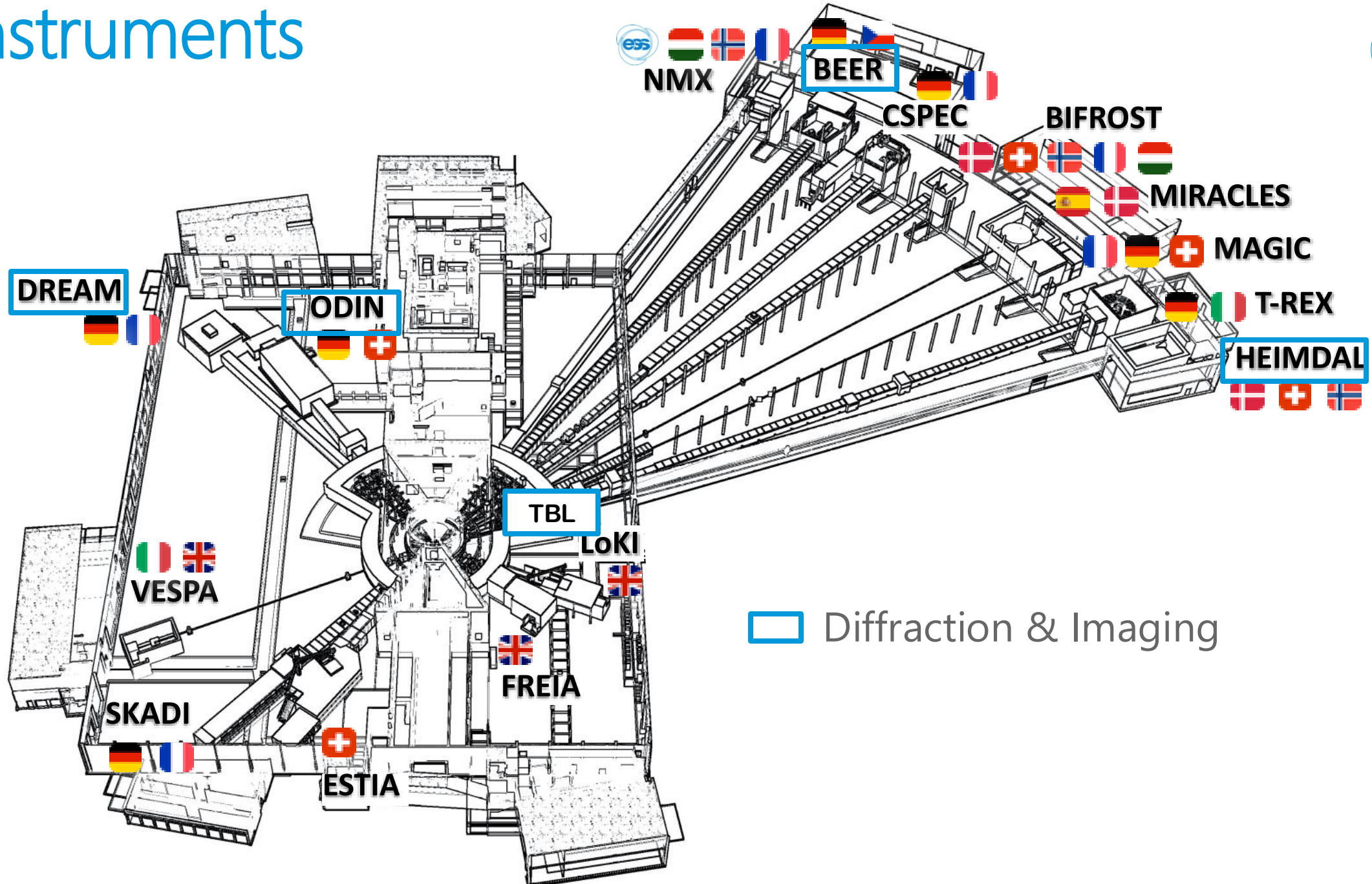
[3] Jülich Center for Neutron Scattering, Forschungszentrum Jülich GmbH

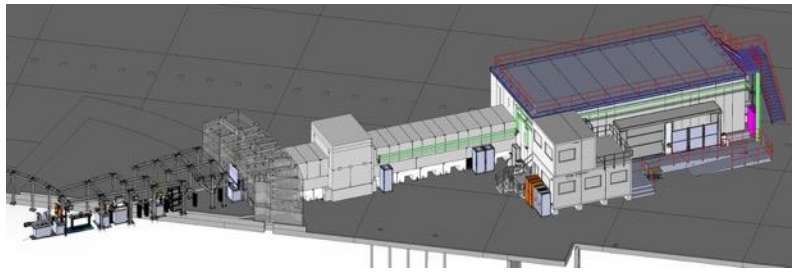
Instruments



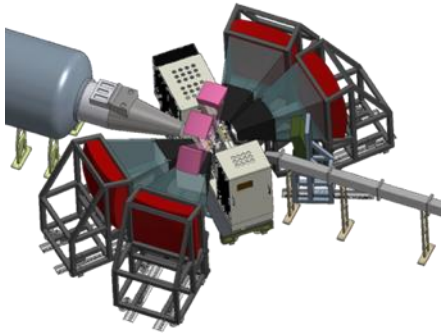
Teams on site

MAGiC
Denis Vasiukov
IOE recruitment ongoing

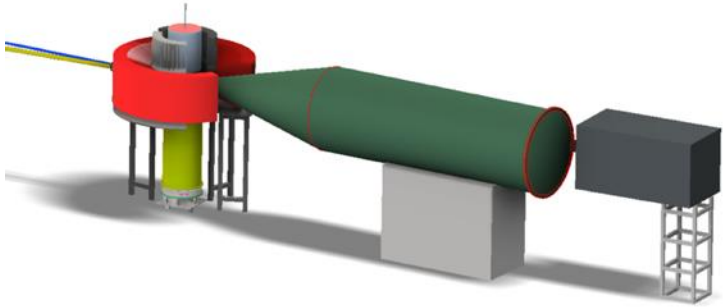
ODIN
Robin Woracek
Stefanos Athanasopoulos(postdoc)
Richard Ammer (IOE)



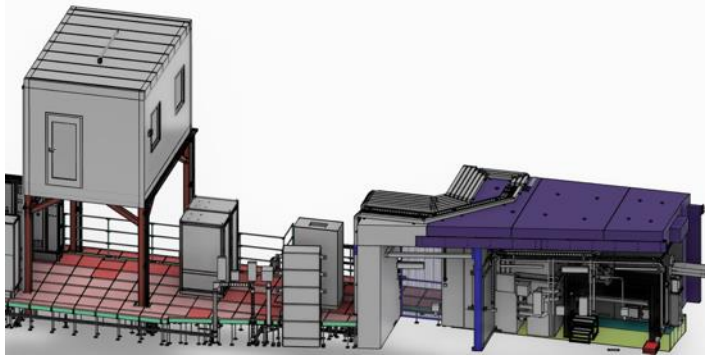
BEER
Premek Beran
Gergely Neméth
Grant Wallas (IOE)
Caroline Curfs



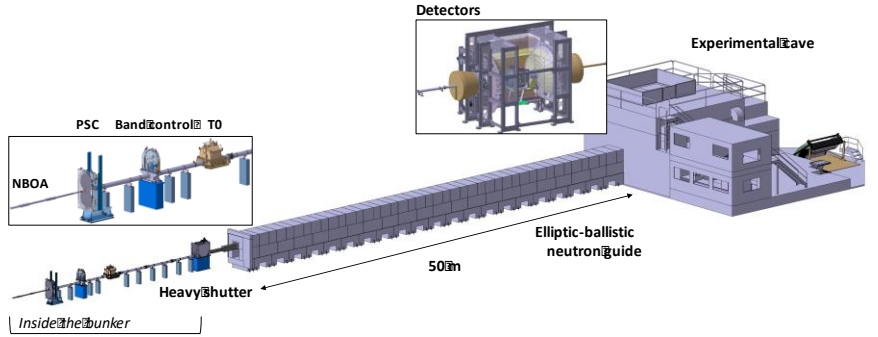
HEIMDAL
Dan Mannix
IOE recruitment ongoing



TBL
Thawatchart Chulapakorn
Zhanwen Ma (TBD)
Jason Morin (IOE)
Farnaz Ghazi Moradi



DREAM
Florence Porcher
Paulo Brant Carvalho
Anna Fornell (IOE)



ESS Ramp Up

Assuming BOT Feb 2026

Beam parameters are indicative only, actual beam will depend on progress of commissioning

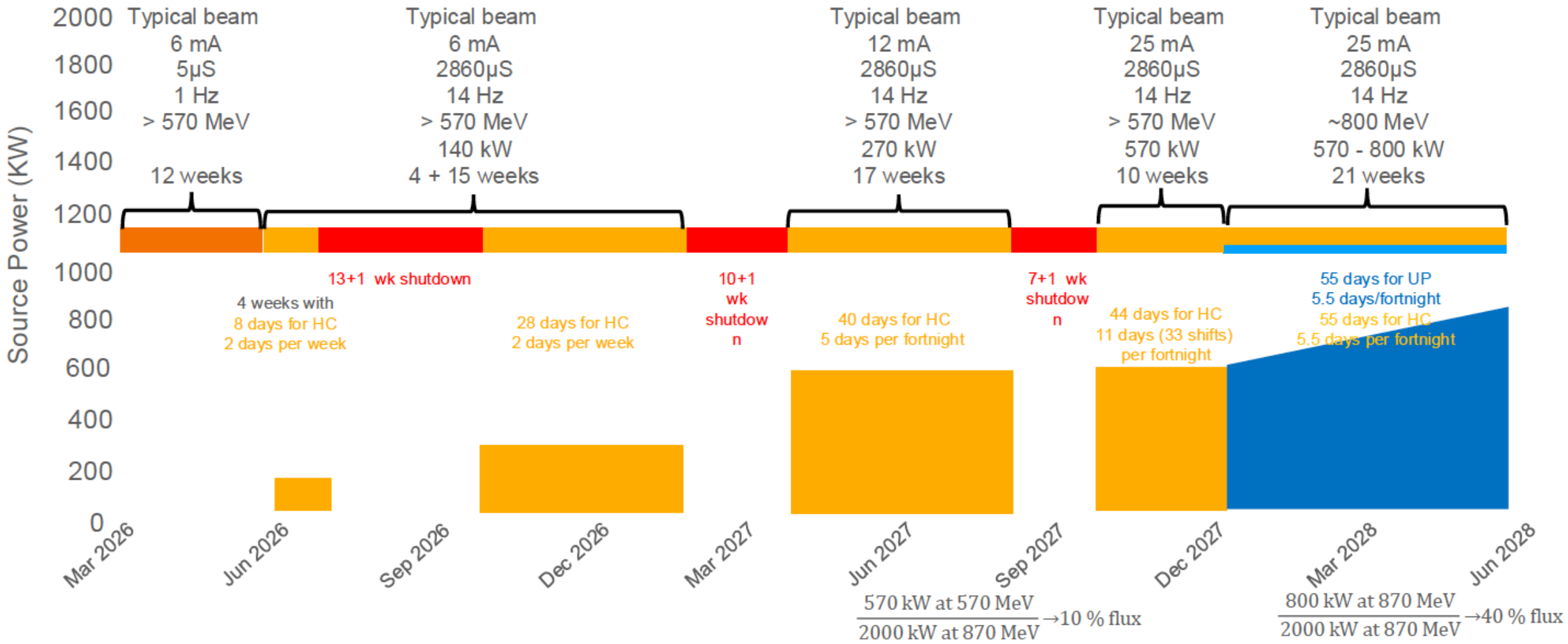
Accelerator commissioning & TBL

Hot commissioning

Shutdown

Users

First users



$\frac{570\ \text{kW at 570 MeV}}{2000\ \text{kW at 870 MeV}} \rightarrow 10\ \%\ \text{flux}$

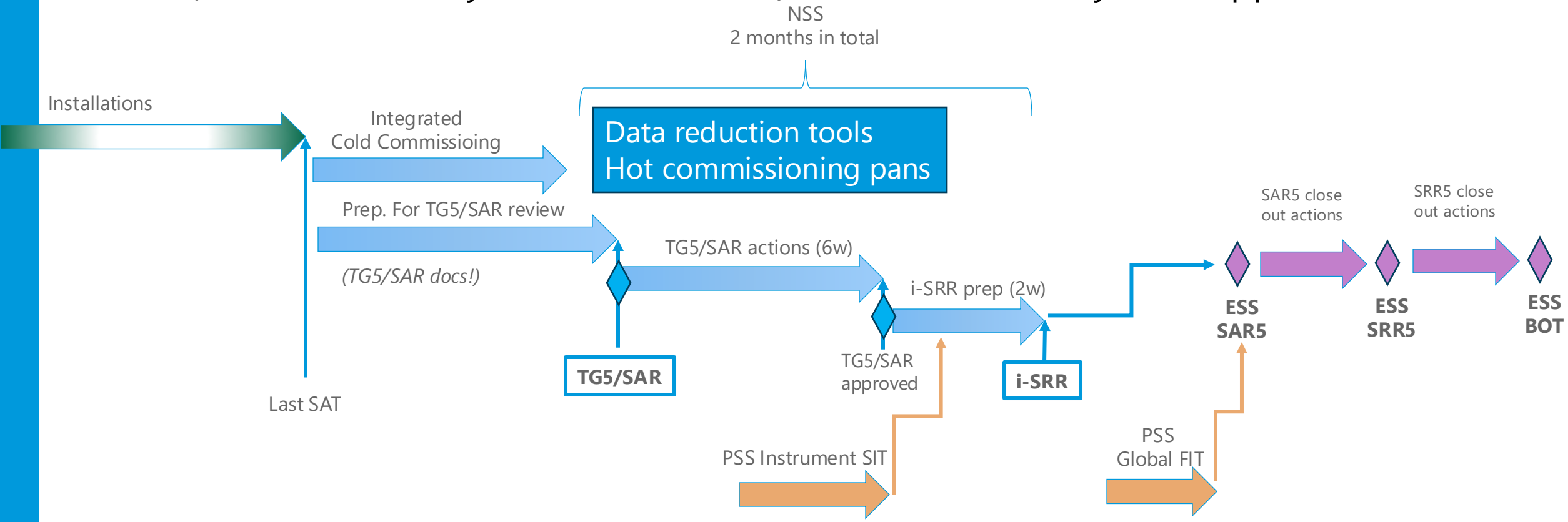
$\frac{800\ \text{kW at 870 MeV}}{2000\ \text{kW at 870 MeV}} \rightarrow 40\ \%\ \text{flux}$

See ESS-0420218 “Early operations of ESS and prerequisites for first scientific results” for more details

Road to Science: NSS high-level schedule

- **SAR (**System Acceptance Review): Are all components installed properly?
  Is the instrument ready for Hot Commissioning?

- **iSRR** (Instrument Safety Readiness Review): PSS, Motion Safety, Fire suppression and etc.



Courtesy to Sofie Ossowski

Charge for Review Committee

1. Validate that all system components, as defined by the Instrument FBS, are present and installed. This ensures that all project scopes have been delivered.

2. Validate that all system documentation has been delivered and is in CHESS.

3. Validate that all technical documentation has been delivered, stored in CHESS, and is appropriately linked to the FBS structure.

4. Review the integrated cold commissioning report and ensure that it represents a sufficient test of the instrument systems, showing that all requirements that are testable during cold commissioning have been addressed.

5. Confirm that the performed testing has verified performance against the requirements that are testable during the cold commissioning.

6. **Review the operating processes of the instrument and Hot Commissioning plan.**

7. Review the list of non-conformities and their actual or proposed resolution and determine if they are appropriate.

8. Prepare a review report

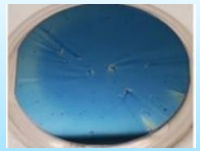
Purpose of SAR review meeting

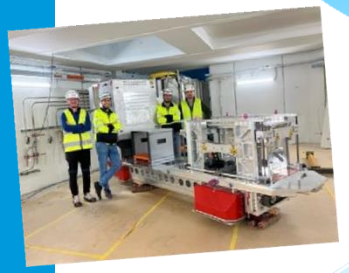
1. It is the informational session to provide the reviewers with an overview of readiness of TBL
2. Status of the local site acceptance tests (SAT) of each component, presented by NSS technical groups
3. Results of the integrated tests
4. Readiness for the hot commissioning
5. Outstanding issues and their proposed solutions (NIT/NCR)

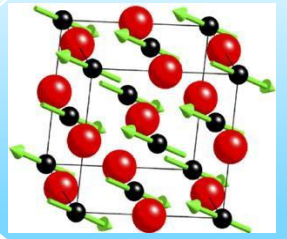
What is not covered

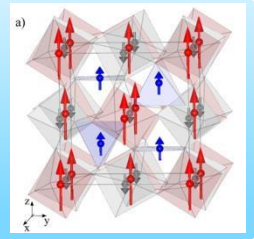
1. Safety readiness (subject of iSRR)
2. Reasons behind the technical solutions for each component
3. Science case and future user program

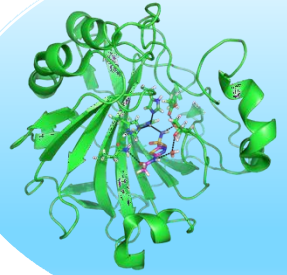
Small samples
Fast kinetics
Extreme conditions
Variable resolution

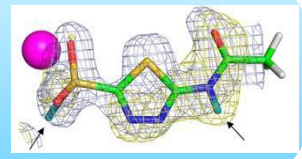


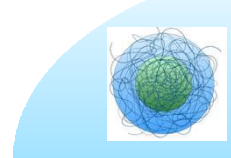


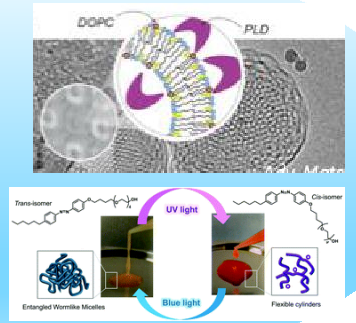


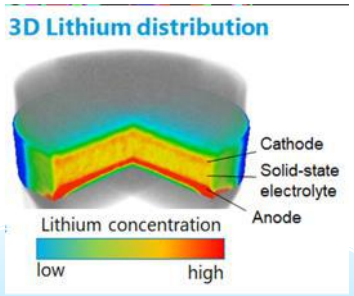


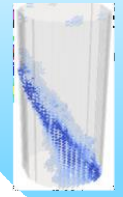


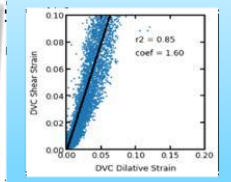


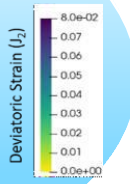


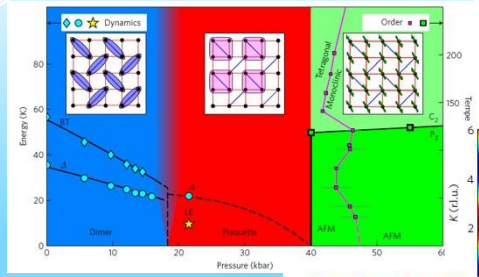


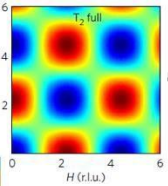


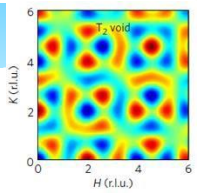












Small samples
Fast kinetics
Extreme conditions
Variable resolution

LoKi

Estia

Odin

Early Science

DREAM

Bifrost

NMX

WEBINAR

ESS ROADMAP FOR FUTURE INSTRUMENTS: WAY FORWARD

Pascale Deen
Spectroscopy

Mikhail Feygenson
Imaging and Diffraction

Giovanna Fragneto
ESS Science Director

Andrew Jackson
Large Scale Structures

23 SEPTEMBER 2025
15.00 - 16.00

Way forward: process of selection

Oct 2025	Preliminary discussions at *Scientific and Technical Advisory Panels* and *Scientific Advisory Committee* meetings - setting up of dedicated expert committee. Proposal of a strategy for projects prioritisation (scientific impact/innovation impact/maturity of concept/timescale & resources/….)
Feb 2026	Collection and editing of all proposals Call ends beginning of February 2026 Initial presentation at *Strategy Council* *Discussion on framework for partnerships (approval of funding models…)*
Apr 2026	Discussion with dedicated expert committee and prioritisation
May 2026	Endorsement of prioritisation list by *Scientific Advisory Committee*
Jun 2026	Presentation at *ESS Council* – request of endorsement of prioritised projects
2026 - 2027	Strengthening of conceptual design of two projects
2027	**Start of detailed design of one/two projects**

Quick summary

- Division is growing, big welcome to Gergely, Caroline and Shuqi
- Despite everything, good progress with TimePix3 integration with ECDC/DMSC
- First-ever TG5/SRR for the instrument was held by TBL
- TBL is official part of BoT of the entire ESS project
- iSRR triggered a lot of helpful discussion with the Quality Division and SAR5 coordinator of the entire ESS
- Some of the common operational procedures will be covered by NSS SAR, scheduled in December 2025
- A workshop between SAD and DID was used to focus on imaging and engineering diffraction needs
- Readiness for the first science at ODIN: Summer student supervised by Stefanos, VR workshop for early science, ESS postdoc for early science, PhD project with KTH, Postdoc (Shuqi)
- More details during the common STAP by Zoom on 21.10
- Challenges will be presented by the instruments

Charge to STAP

1. Comment on the progress of the instrument projects in the context of their schedule.
2. Comment on progress of software developments.
3. Comment on the “technical readiness” of the instruments to receive first neutrons.
4. Comment on the proposed strategies for First Science at ODIN and BEER.
5. Comment on the two new instrument ideas presented.
6. Comment on impressions from the site tour and observations from instruments and support facilities.
7. Summarize findings and recommendations in a written report (bullet points or slides are sufficient).
8. Note: The STAP chair will be invited to present at the SAC meeting, 23–24 October 2025.