EUROPEAN
SPALLATION
SOURCE

MXCuBE
Site Report

NMX, European Spallation Source (ESS)

AARON FINKE (NMX) & LAÍS PESSINE DO CARMO (ECDC)

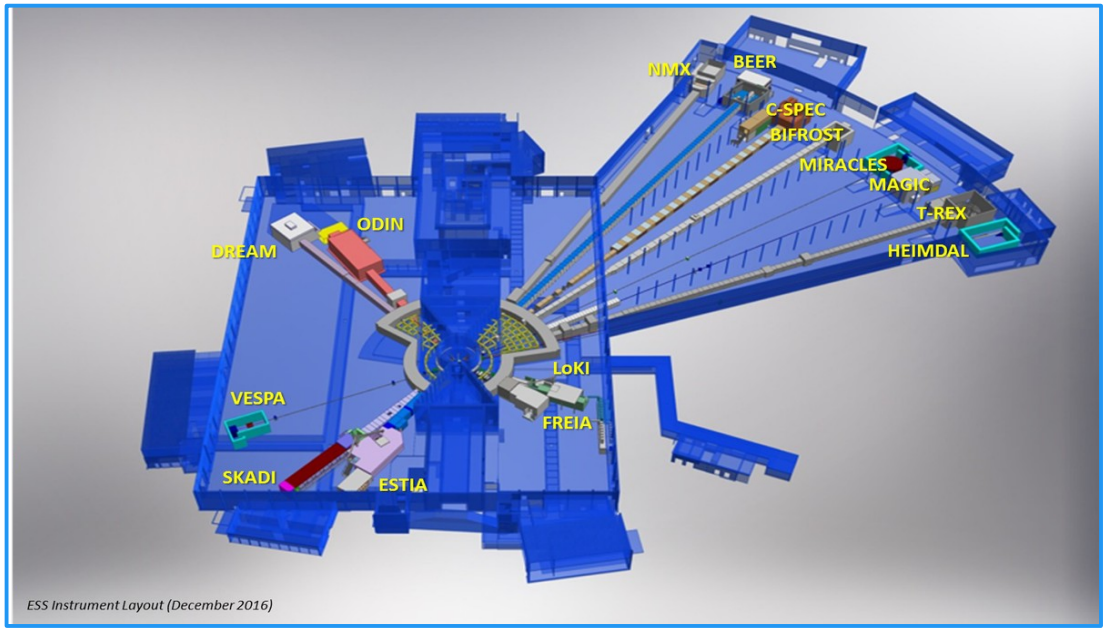
MXCUBE MEETING @ DIAMOND

Nov 19th 2025

Brief instruments summary

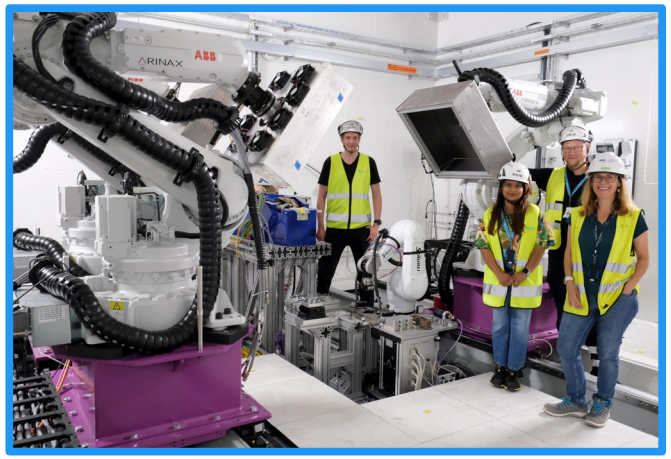
ESS

- **Beam on Target** (first neutrons) on early 2026
- Done: Cold commissioning of TBL (Test), BIFROST, LOKI instruments
- Now going to: DREAM, ODIN, ESTIA, **NMX**



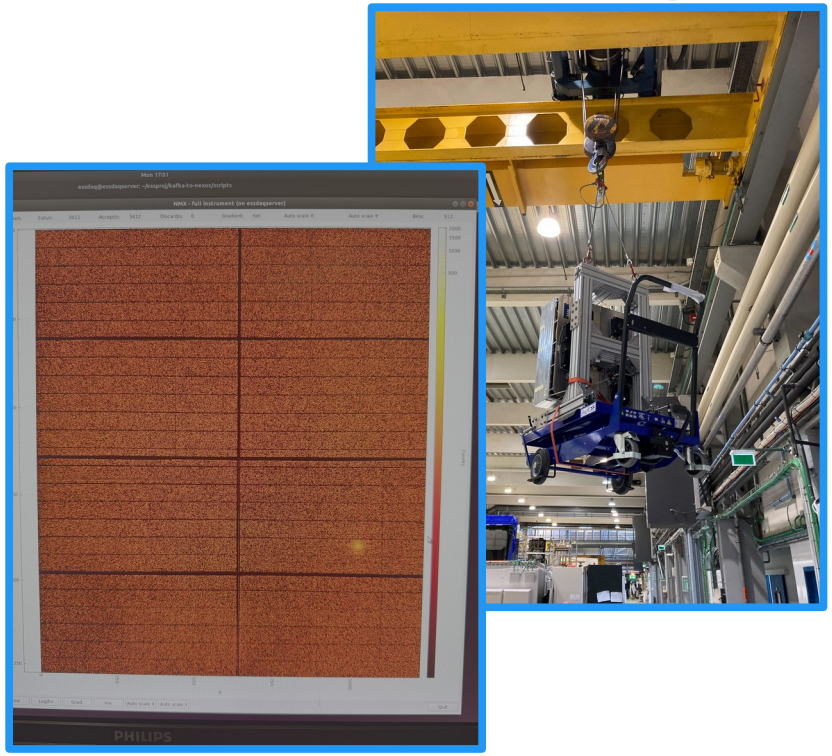
Brief instruments summary

NMX



ARINAX hardware installed at the site

Choppers cold commissioning done



More detector tests (at ILL, and in Budapest)

Control hutch computers delivered

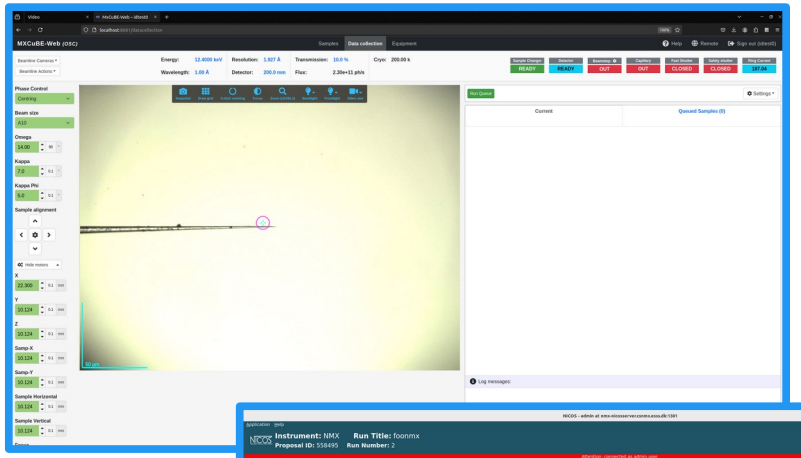
Sample Preparation Area assembled

MXCuBE status

Basic integration plan at NMX

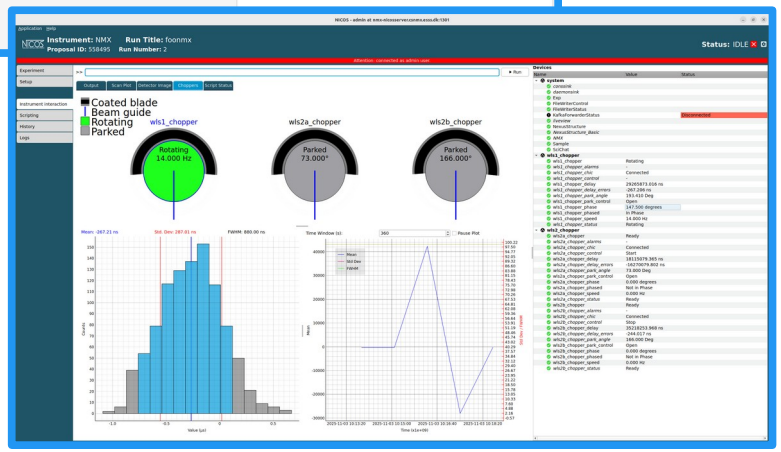
Versions (testing env):

- **mxcubeweb**=v4.231.0, mxcubecore==v1.188.0
- But now upgrading to the latest (with yaml)
- Python 3.10, Ubuntu 22.04



Other deployments:

- **NICOS** now in production, and talking to EPICS control system.
- Choppers EPICS PVs added to NICOS.



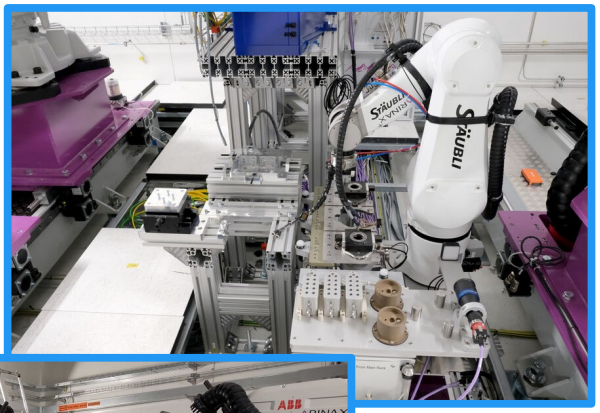
Cybersecurity? Internal access only, for now.

Developments since last meeting

- ✔ **Shared ESS-specific classes we have so far (MR #1445, in review)**
  - ✔ NICOS connection and devices (actuator and motor)
- ✔ **Follow-up from last Code Camp (issue #1654, closed):**
  - ✔ Sample view remote code session (thanks Yan Walesch and Michał Gucwa!)
- ✔ **Detector config widget**
  - ✔ UI + HW object class: prototypes done, to get/set needed values. Needs cleanup!
- ✔ **1st filewriter tests (mxcube → NICOS → Filewritter service)**
  - ✔ File written according to Nexus template.

Plans for the next six months

- ARINAX controls: energize and test at the site (robots, EPICS Pvs)
  - Then test NICOS and MXCuBE with real ARINAX PVs
- Finish mxcube upgrade to latest version/yaml
- Refactor mxcube-nicos communication(e.g., use Redis cache from NICOS)
- Wavelength range control (choppers) in mxcube-NICOS.



Thank you!