

Diffraction STAP October 2025 - DREAM update

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DREAM instrument

Partners: FZJ 76%, LLB 20%, ESS 4%

Construction budget: 13.66 M€

TG5-iSRR: Jan 2026

PSC & BC Disk choppers (FZJ)

- LSAT Nov. 24 – **ISAT Nov. 25**

T0 Chopper (ESS)

- **LSAT Sept 25 – ISAT Nov. 25**

Bi-spectral switch

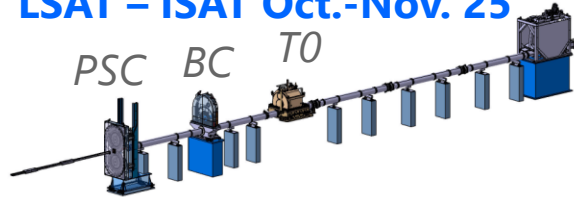
- Installed

NBOA (FZJ)

- Installed

Beam monitors & services

- **Installed, Energized**
- **Gas system (ESS): pending**
- **LSAT – ISAT Oct.-Nov. 25**



Heavy Shutter

- Installed – **SAT Sept. 25**

Sample vessel (FZJ)

Vessel support (LLB)

- Installed

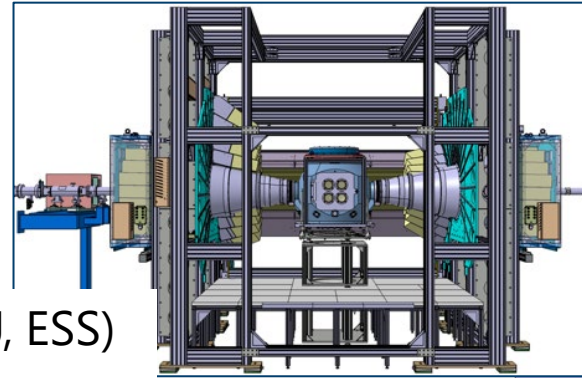
Guides & Shielding (FZJ, ESS)

- Installed, verified

Slits: LSAT – ISAT Oct.-Nov. 25

Detectors (FZJ) installation

- Endcap: Done
- High-Resol: Done
- **Mantel: Aug. 25**
- NanoSANS: Apr. 25
- **Gas system (ESS): installed**
- LSAT+iSAT: Oct.-Nov 25**



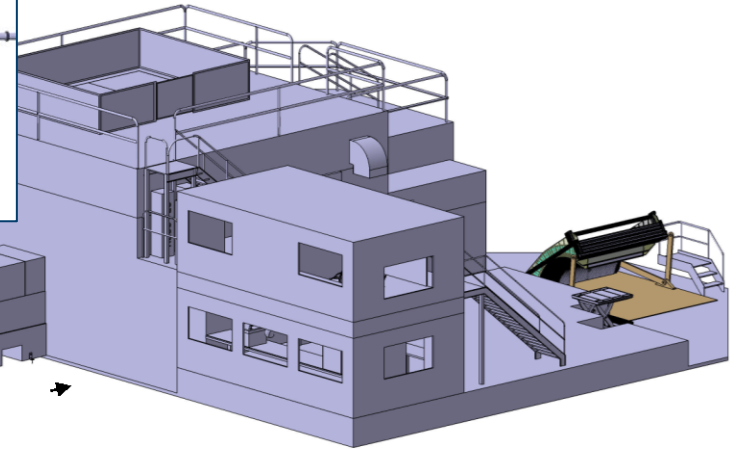
Experimental cave (LLB)

- Installed
- Fire detection: March 25
- **Exemption fire suppression**
- **Roof-PSS installation ongoing**

Control hutch

& sample prep. lab (FZJ)

- Fire suppression Mar. 25
- **Fitting of lab. Space.**



CEP: Energized

CUP: Installed, corrections

ICS: Energized

PSS: Ongoing

CEP: Common Electricity Project

CUP: Common Utilities Project

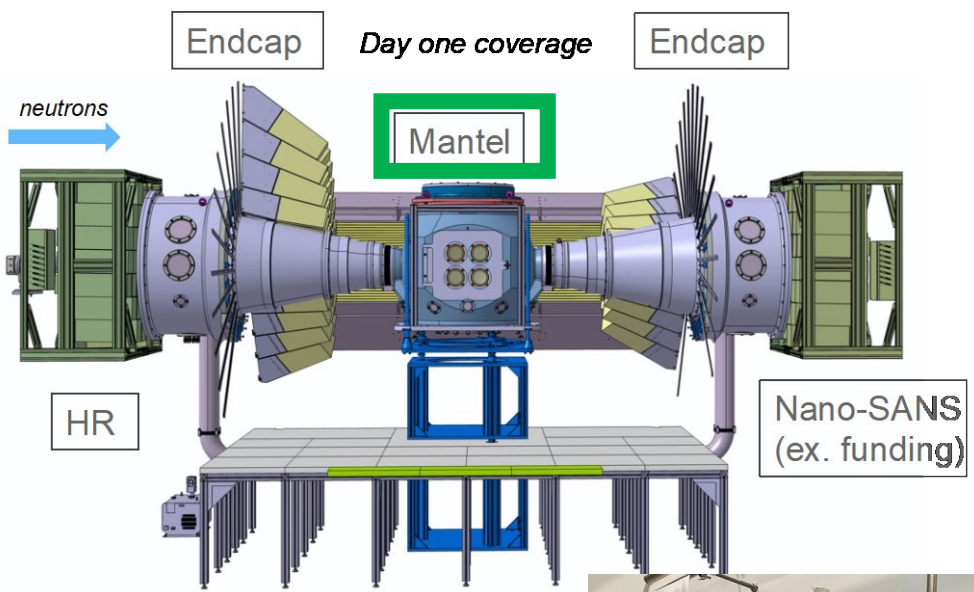
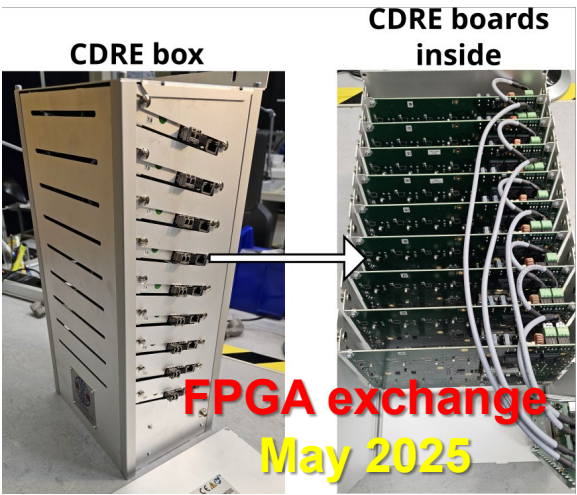
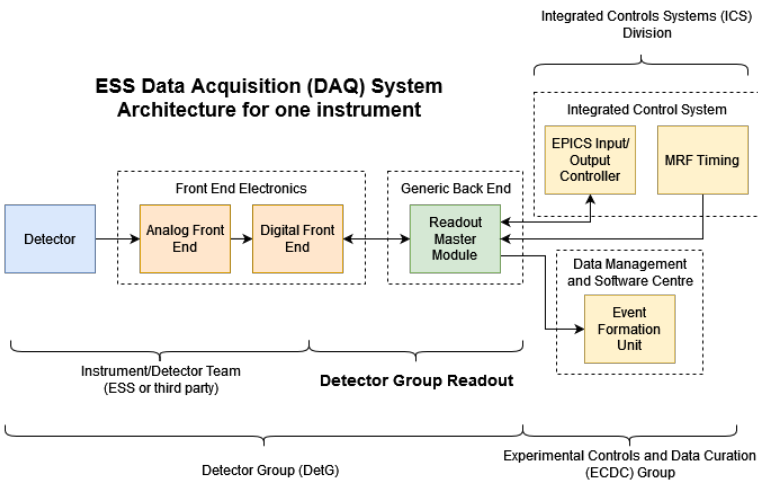
ICS: Instrument Control System

PSS: Personal Safety System

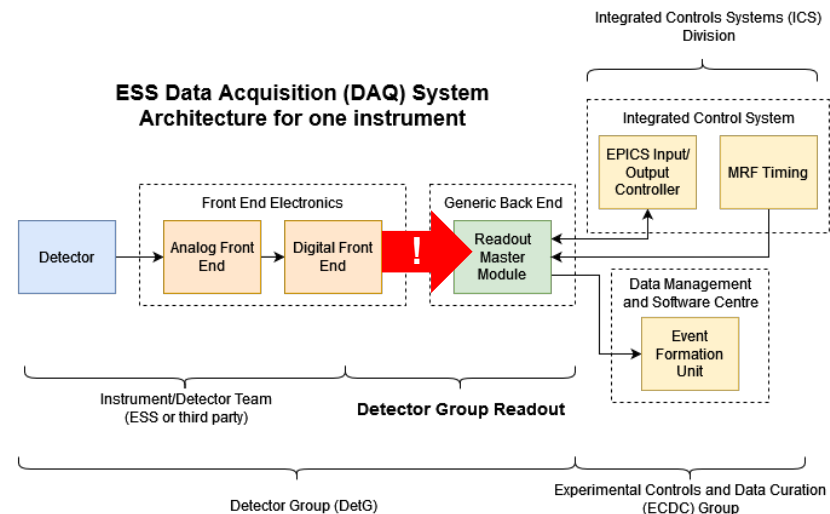
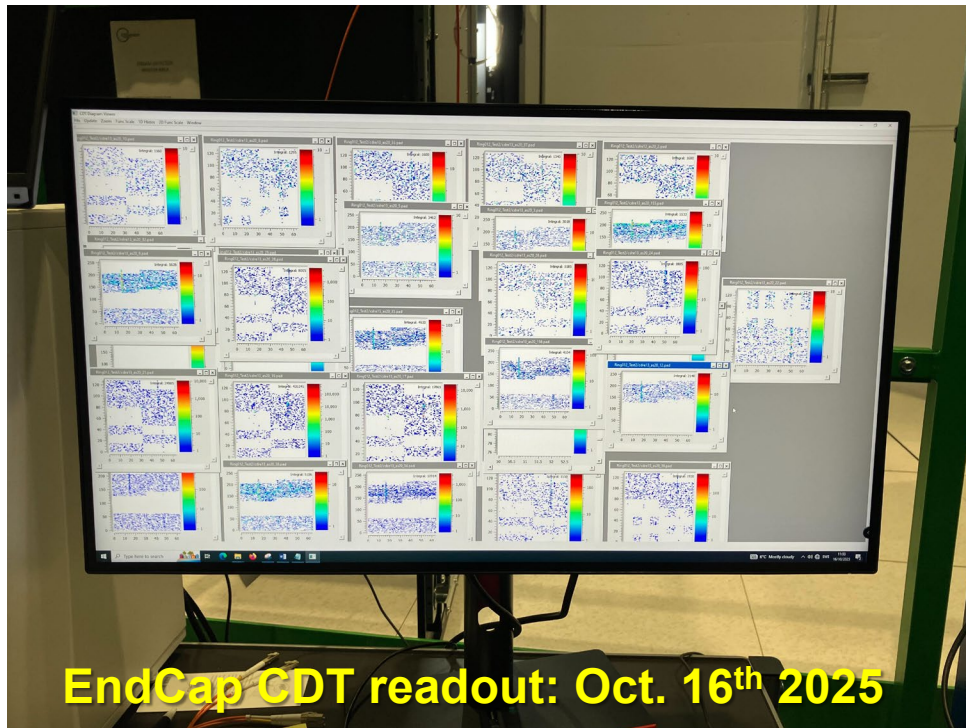
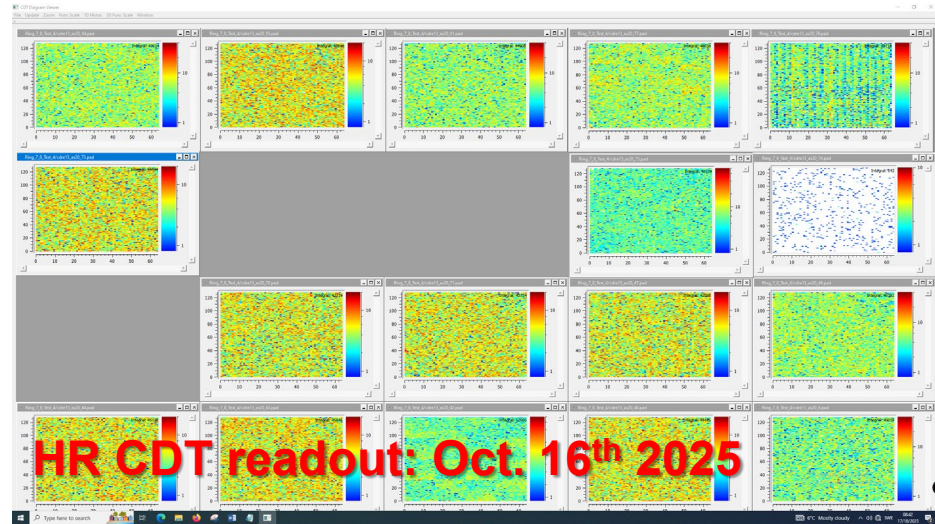
LSAT: Local SAT (local device control)

ISAT: Integrated SAT (Nicos+Kafka)

DREAM gas system & detectors



Beam Detectors LSAT (started Oct. 15. 2025)



Last news:

Ar-CO₂ leakage at detector
EndCap + HT detectors OK
Front-end to RMM readout

Others...

Fitout of the lab. space ongoing



REMS station



PSS (Cave roof)

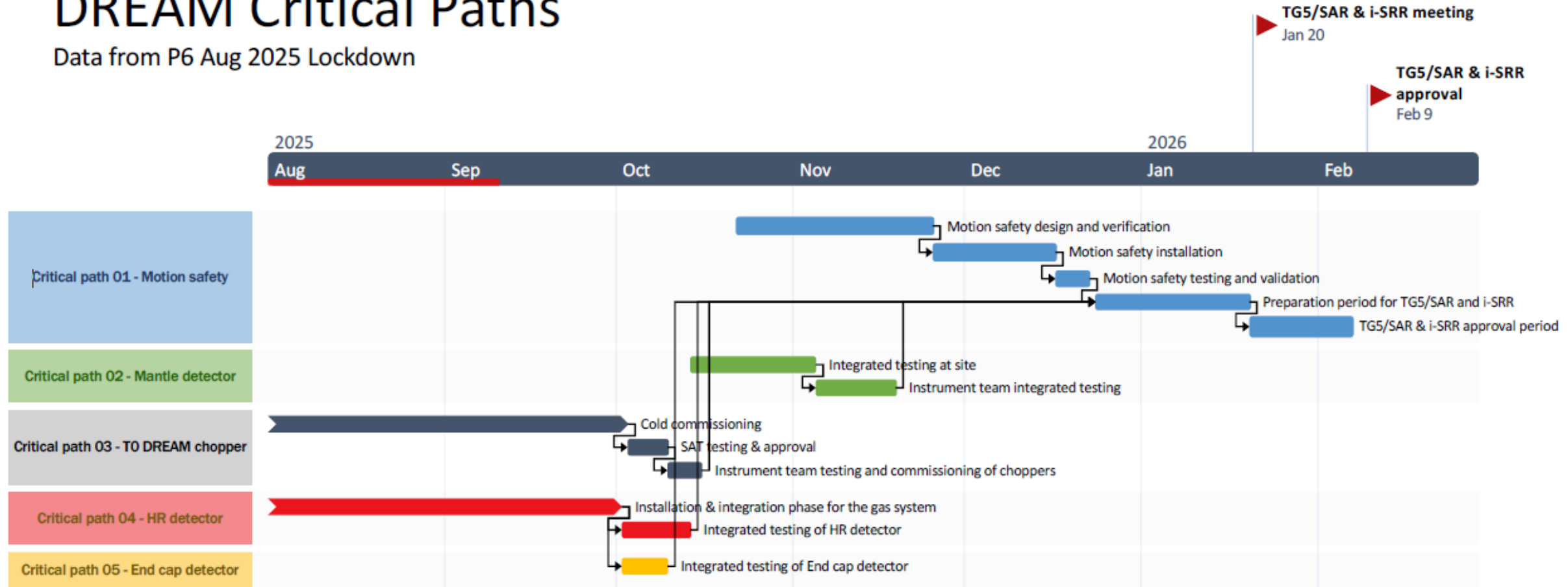


ODH monitor

Remaining tasks

DREAM Critical Paths

Data from P6 Aug 2025 Lockdown



Physical installations

- Monitor gas system
- Patch panels (SE control)
- *ODH*
- *PSS*

Integration

- HR detector FE + slow control
- Mantel detector FE + slow control
- Gas system for detector

Local SATs (LSAT)

- MCA instrument zone
- Detectors
- Monitors

Integrated SATs (SAT)

- Choppers
- MCA instrument zone
- Detectors
- Monitors

Remaining tasks

TG5 documentation DREAM

Créée par Beate Linnenberg, dernière modification par Natalia Cherkashyna le nov. 19, 2024



Green documents DREAM - [link](#) (docs from TG3 that have been reviewed and released as part of final TG3)

- Concept of Operations
- Requirements Specification
- Architecture description (e.g. P&ID)
- Design descriptions (as designed state)

Orange documents DREAM - [link](#) (docs that were in draft at TG3 that must be finalized for TG5)

- Operation and maintenance documents
- Verification & Validation Plan (includes Hot Commissioning Plan, RP survey plan)
- Risk assessment (IHA) (Radiological, Conventional, Motion, Equipment Protection)
- Radiation Safety Report (IHA + H1/H2 + Shielding Report + Inventory)

Red documents DREAM - [link](#) (documentation resulting from verification and validation (testing) activities)

- All Verification report/-s (or equivalent from FAT/SSAR/SAT/Local testing) for sub-systems (safety systems and supporting systems)
- All Validation report/-s (or equivalent from SSAR/SAT/Local testing) for sub-systems (safety systems and supporting systems)
- **Integrated System Verification Report (full instrument cold commissioned including controls)**
- CIDL — “As Verified” Baseline
- ~~CE marking and/or Declaration of Conformity (need clarification from Quality on how this is issued)~~

Green documents



Orange documents



Red documents



Prep meeting for SAR and i-SRR:	Mid. Dec. 25
SAR and i-SRR meeting:	Mid. Jan. 26

Approximative evaluation
Meeting with TG5-squad needed
(quality check, completeness)!

Challenges to come...



Multiple local SATs pending

- Parallel work possible (different zones & technical groups, no interdependencies)
- Availability of technical teams (other instruments waiting) → delays, schedule changing
- Problems may appear during SAT → Flexibility + reactivity needed

Optimisation:

- iSRR combined with TG5 – PreTG5 meeting in December
- NITs to follow up on Software/Firmware issues that can be corrected after TG5 but before Hot Commissioning (March 2026)



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