



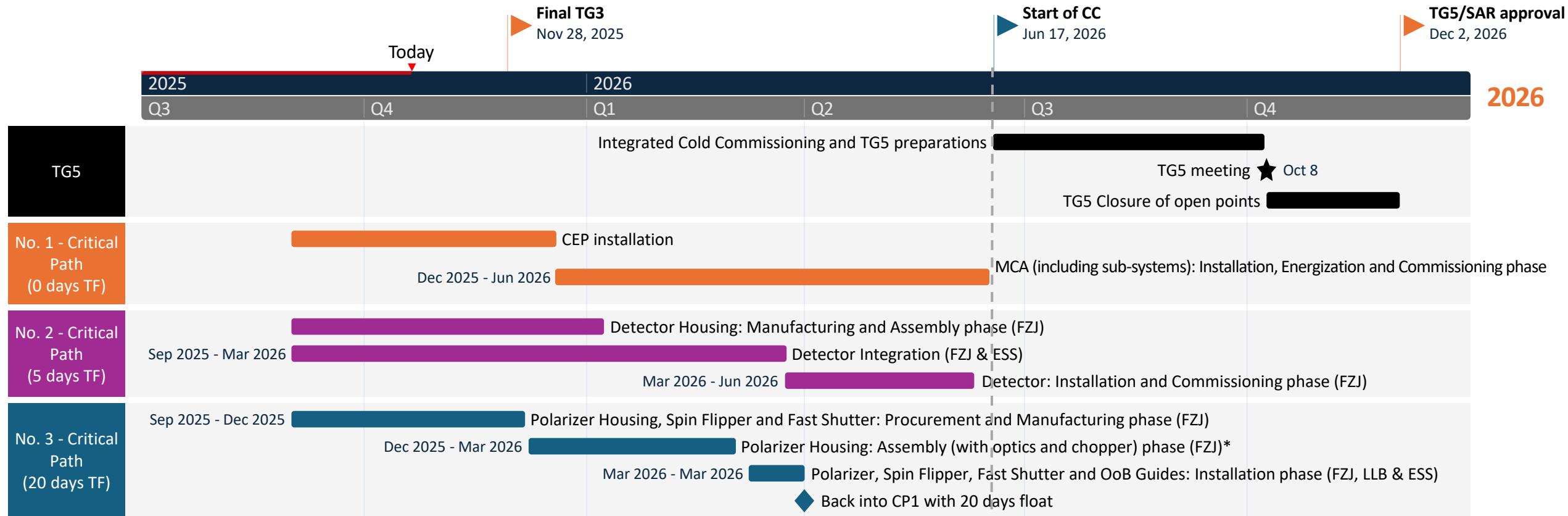
NSS Replanning Evaluation

SKADI ICEB

2025-11-05

Skadi Critical Paths

Data from P6 September 2025 lockdown



Design phase ends at CDR approval

Procurement and Manufacturing phase ends at FAT closure of open points

Installation and Commissioning phase ends at SAT approval

TF: number days of **total float** to Instrument's TG5

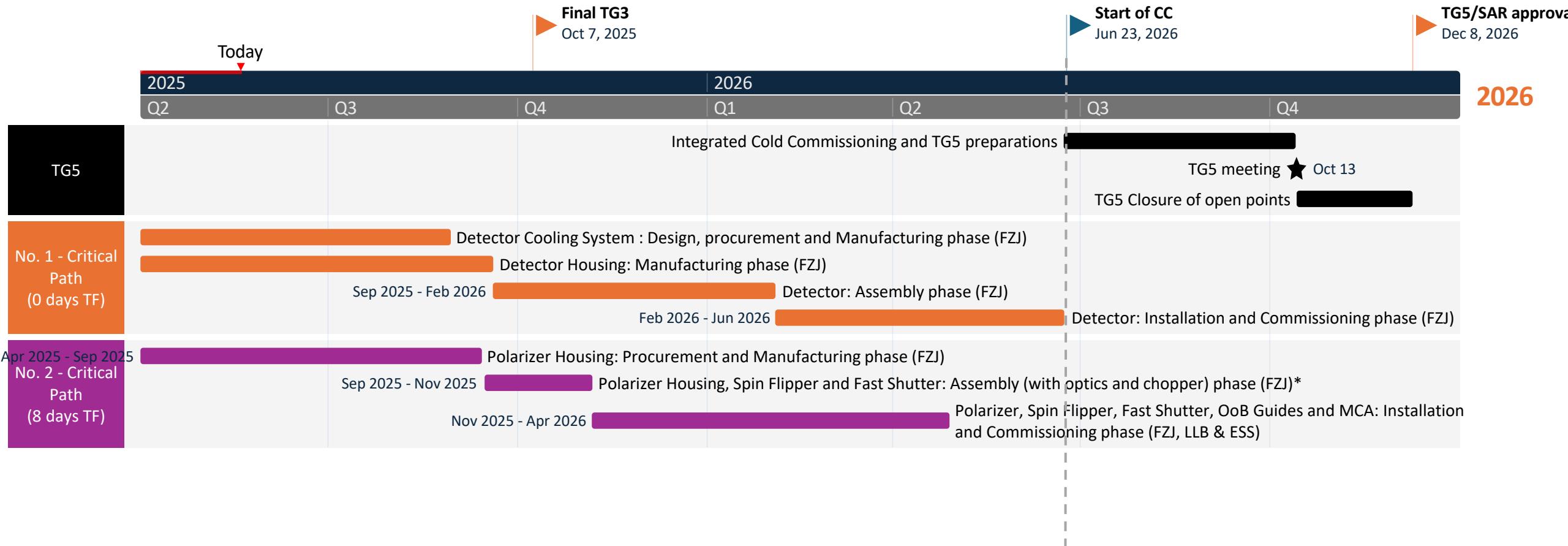
Since last ICEB...

- No shift on TG5, well done!
- CEP and MCA new as CP1
- Some delays on deliveries on the other critical paths.

* Spin flipper and Fast shutter has 6 days float (testing in parallel to polarizer housings assembly)

Skadi Critical Paths

Data from P6 April 2025 lockdown



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TF: number days of **total float** to Instrument's TG5

*As part of CP02: Procurement and Manufacturing of Spin flipper and Fast Shutter has 8 days of float

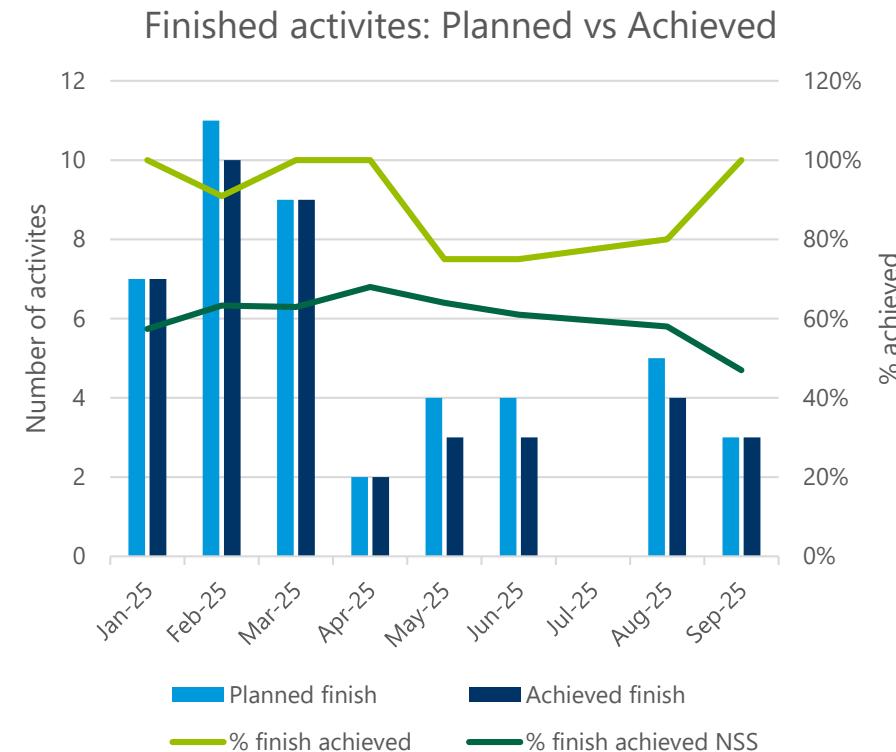
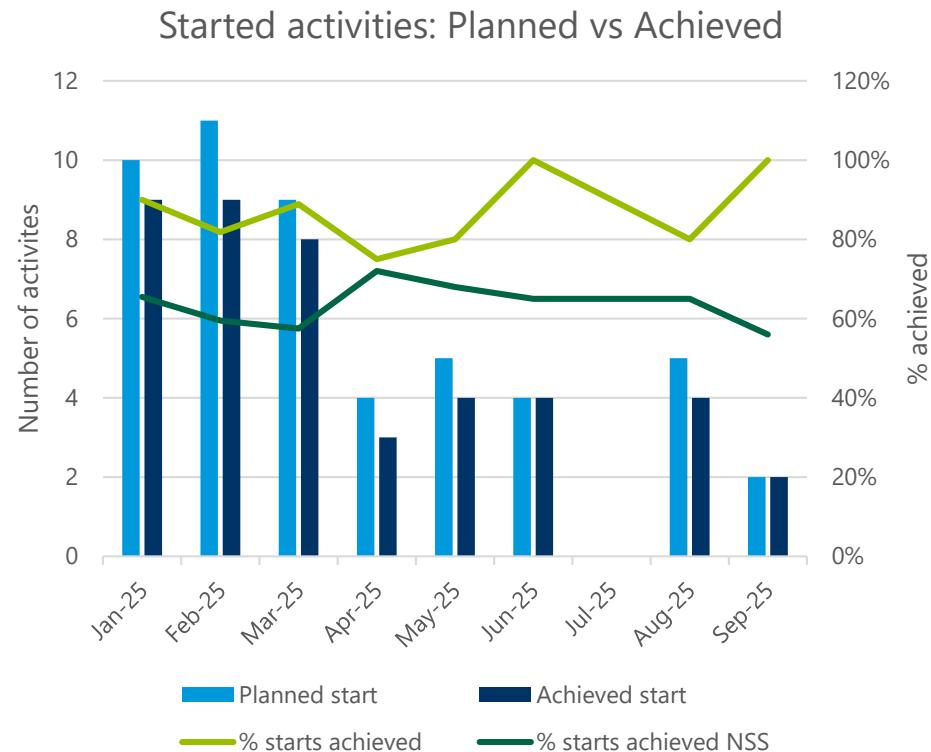
Key milestones

TG3 has been delayed, no other big shifts on other key milestones

Activity Title	January 2024 (replanning)	Previous Period End	Current Period End	Variance from January 2025	Variance in period
SKADI: Final TG3 meeting	14-apr-25	16-dec-25	03-nov-25	113	-31
SKADI: Ready for cold Commissioning	23-jun-26	17-jun-26	17-jun-26	-3	0
SKADI: TG5	08-dec-26	02-dec-26	02-dec-26	-3	0
SKADI:Polrz+SF+FS: Installation of Polarizer, Fast Shutter, Spin Filiper	16-mar-26	31-mar-26	31-mar-26	11	0
SKADI: Det Tube: Installation of Detector Tube	21-mar-25	31-mar-25	31-Mar-25 A	6	0
SKADI: Detector: Installation of detectors	05-maj-26	22-apr-26	22-apr-26	-8	0
SKADI:PSC: SAT approval	24-apr-26	12-maj-26	12-maj-26	11	0
SKADI: CEP: Test validation and energization of Instrument systems	N/A	11-dec-25	11-dec-25	0	0
SKADI CUP: Commissioning & final documentation	N/A	27-nov-25	16-feb-26	0	47
SKADI: MCA: Testing of interfaces with EPICS	N/A	08-jun-26	08-jun-26	0	0

Schedule adherence

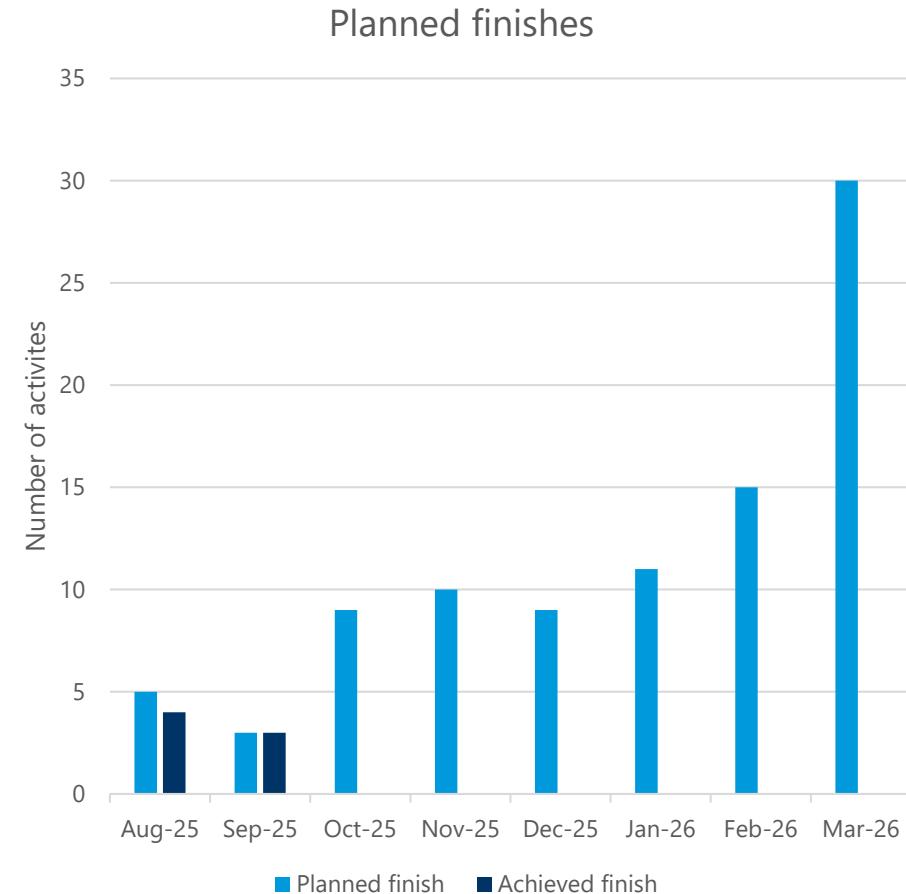
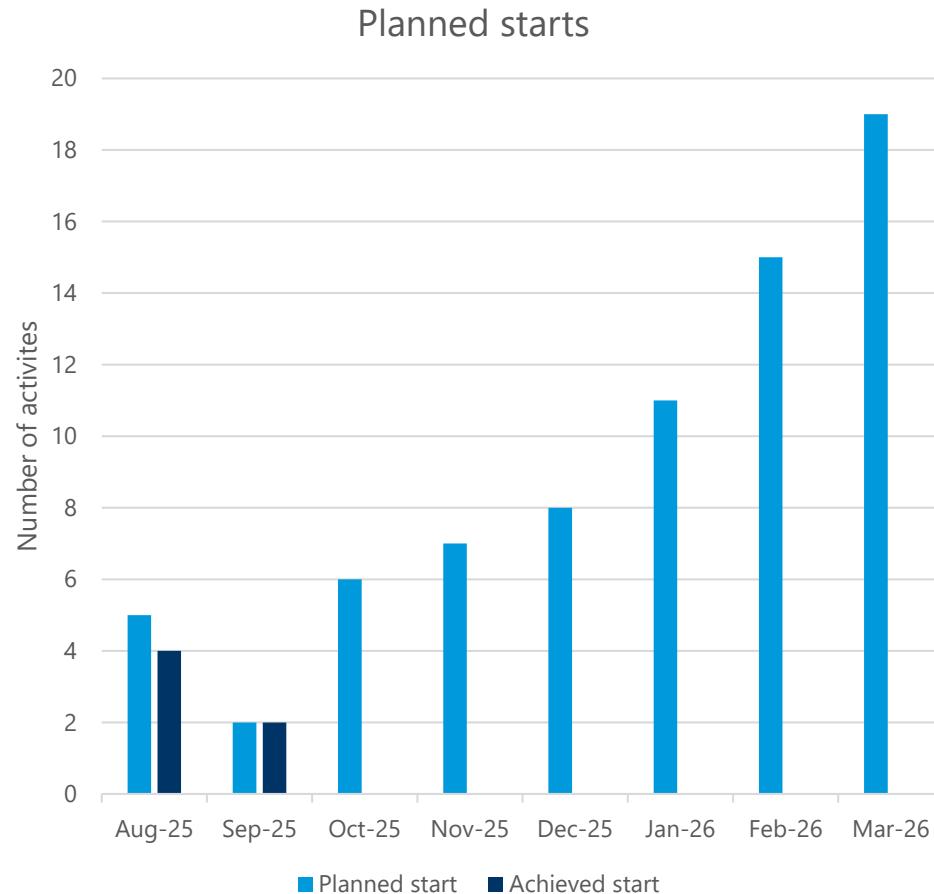
Most months – SKADI is above average on schedule accuracy



Lookout - future activities



There's a lot in the pipeline..





NSS T2T3 Replanning exercise

ICEB: SKADI, MAGIC AND T-REX

Sorry DREAM... you're not included in this slide deck...

Agenda



1. Status of the replanning
2. Since the replanning finalized
3. Next steps

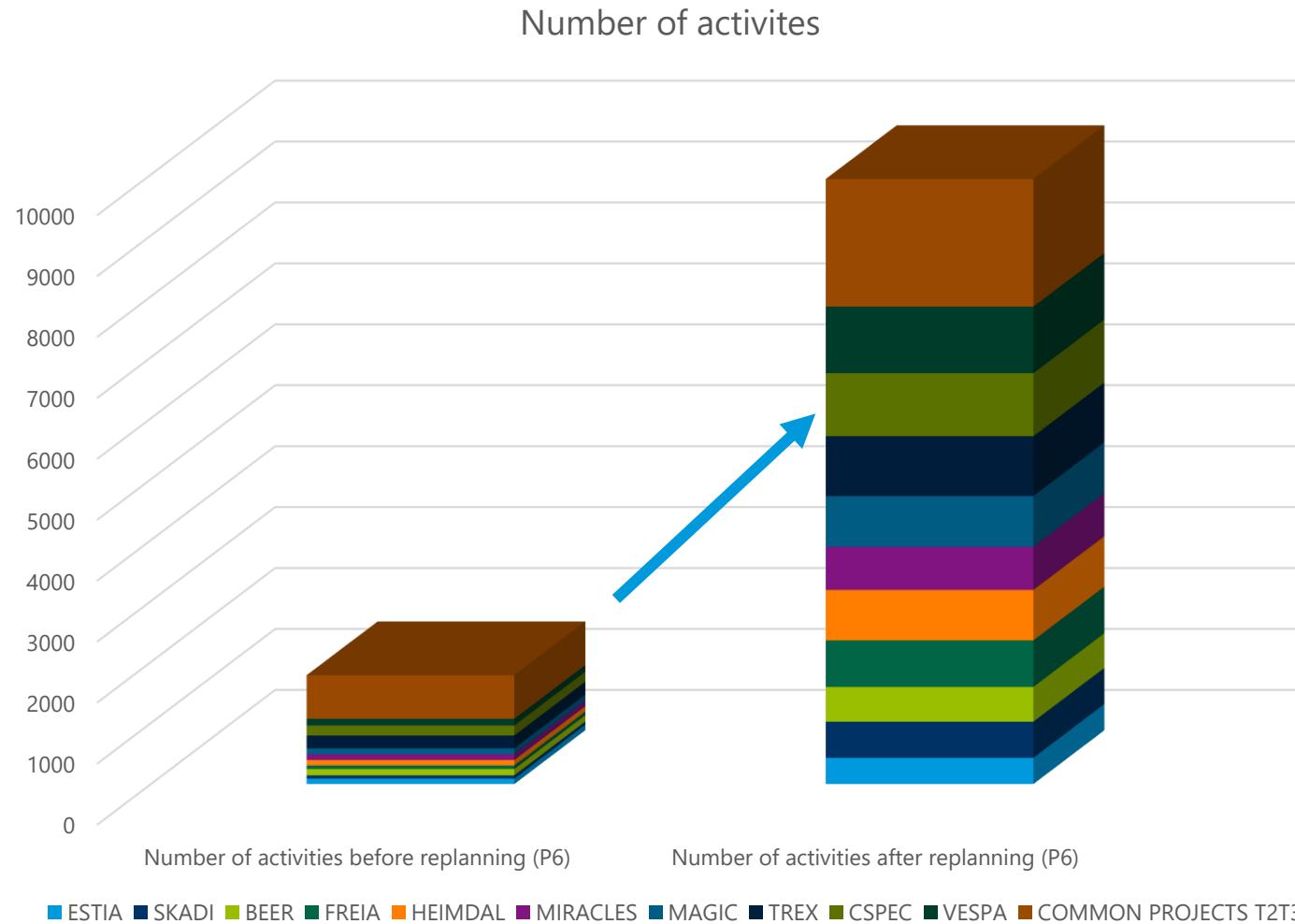


Status of the replanning

Where are we now....

Replanning finalized

More details in P6 : TA milestones + detailed plan



Open activities in P6:

- **SKADI:** 180 activities:
 - 33 TA Milestones
 - 147 Detailed plan
- **MAGIC:** 553 activities:
 - 43 TA Milestones
 - 510 Detailed plan
- **T-REX:** 706 activities:
 - 133 TA Milestones
 - 572 Detailed plan

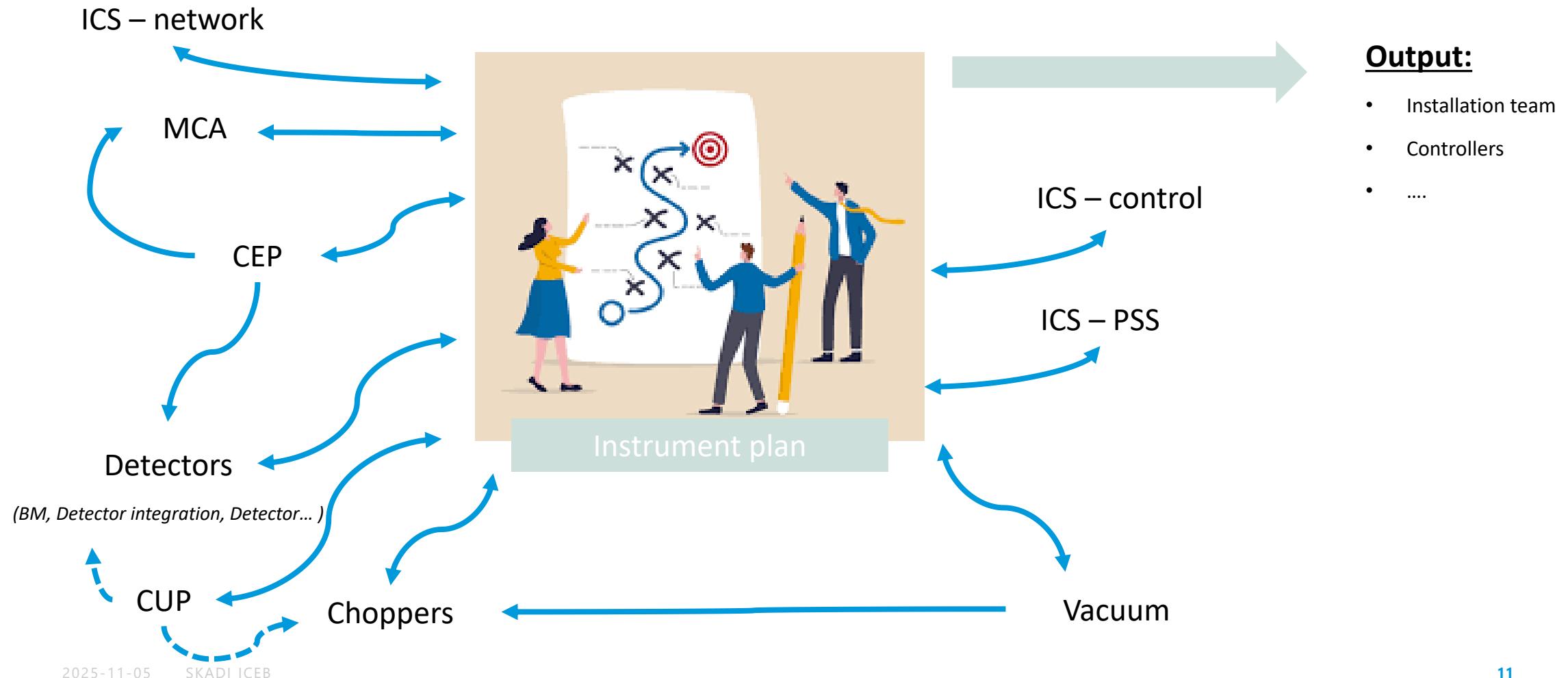
We have more information in P6.

How can we use this information:

- to plan/coordinate (installation, commissioning etc.)
- keep track of progress (updating monthly instrument dashboards with replanning dates)
- make informed decisions about priorities

Simplified view of the P6 landscape

Linking an instrument plan to common projects and technology groups





Since the replanning finalized

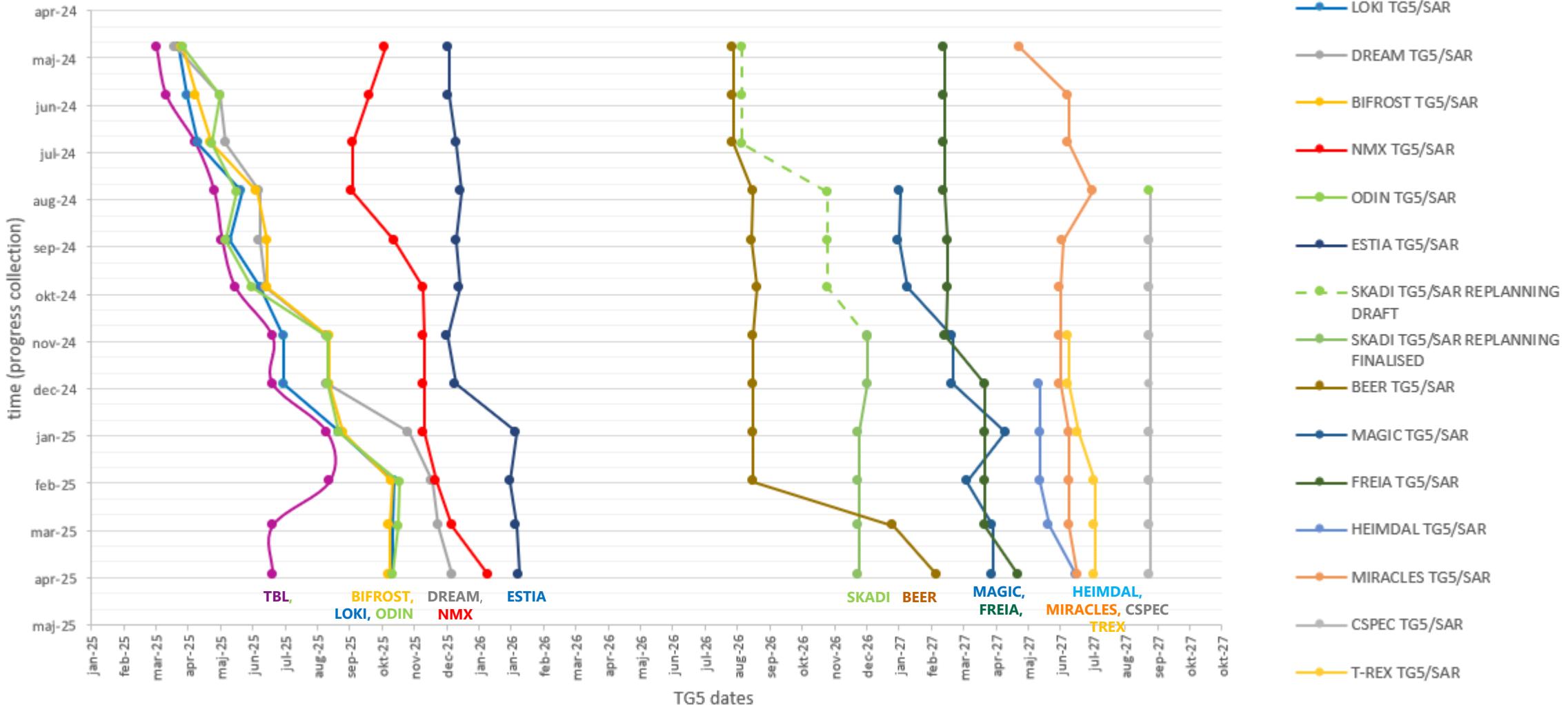
What's the status of our detailed plans?

TG5 slip chart

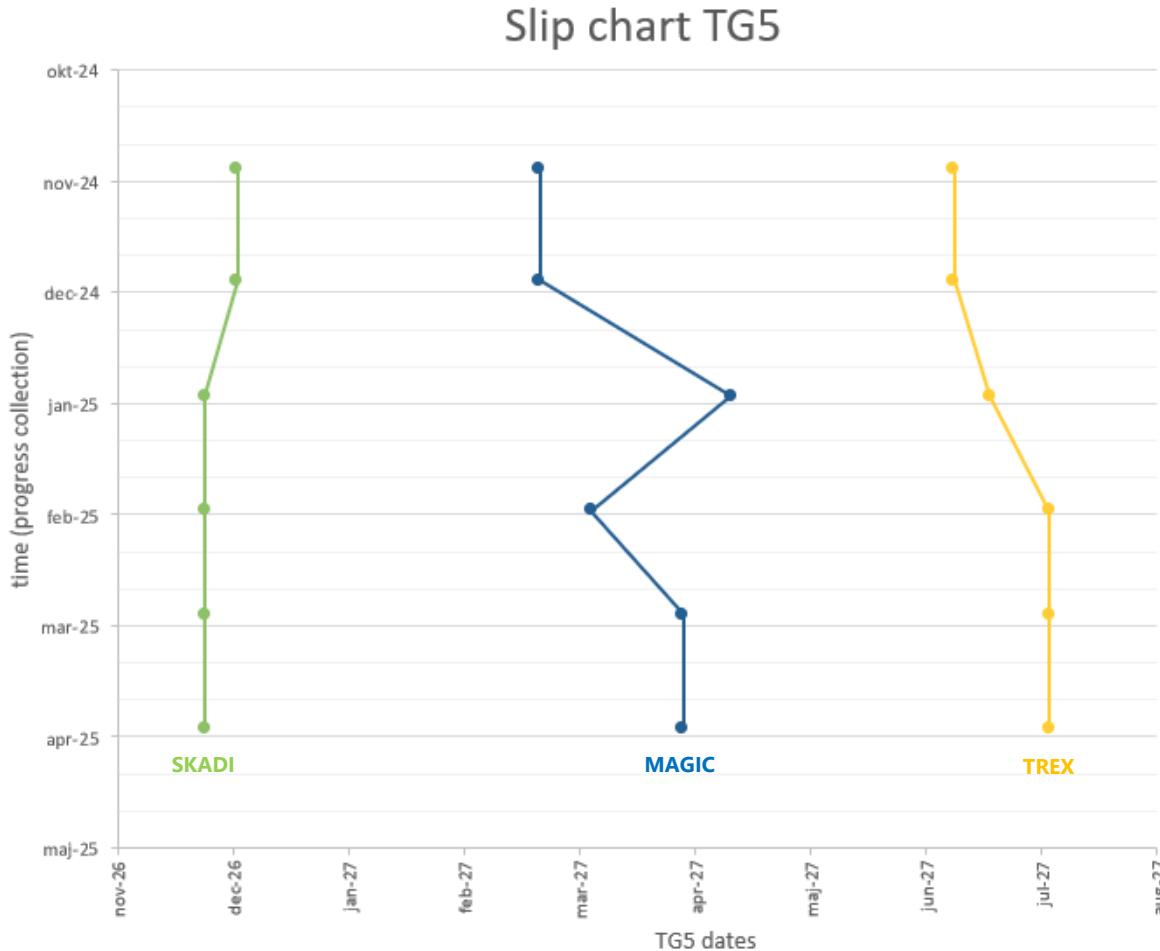
Data from P6 April 2025 lock down



Slip chart TG5



Recent TG5 slips



Last four months (since December 2024)

SKADI:

- 1 week (16th of December - > 8th of December)

MAGIC – Delays on design

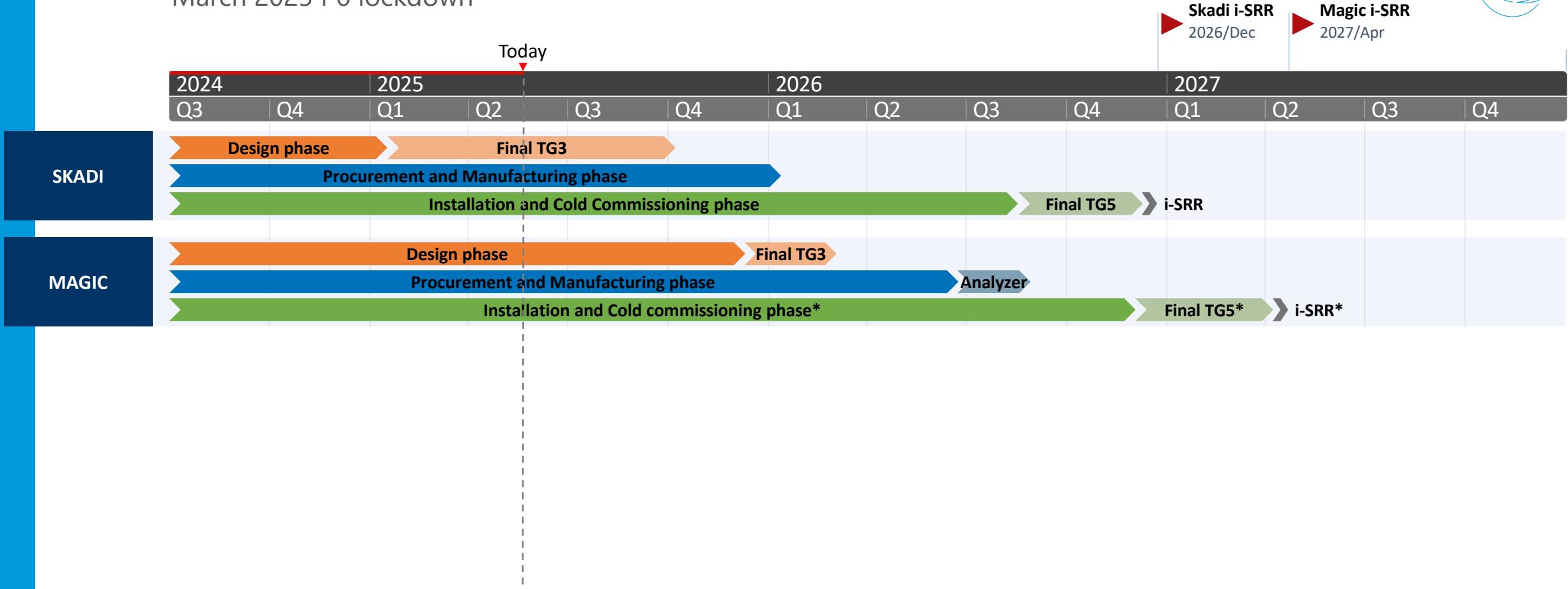
- +5 weeks (2nd of March - > 7th of April)

T-REX – Delays on cave and fan chopper

- + 3 weeks (13th of June - > 8th of July)

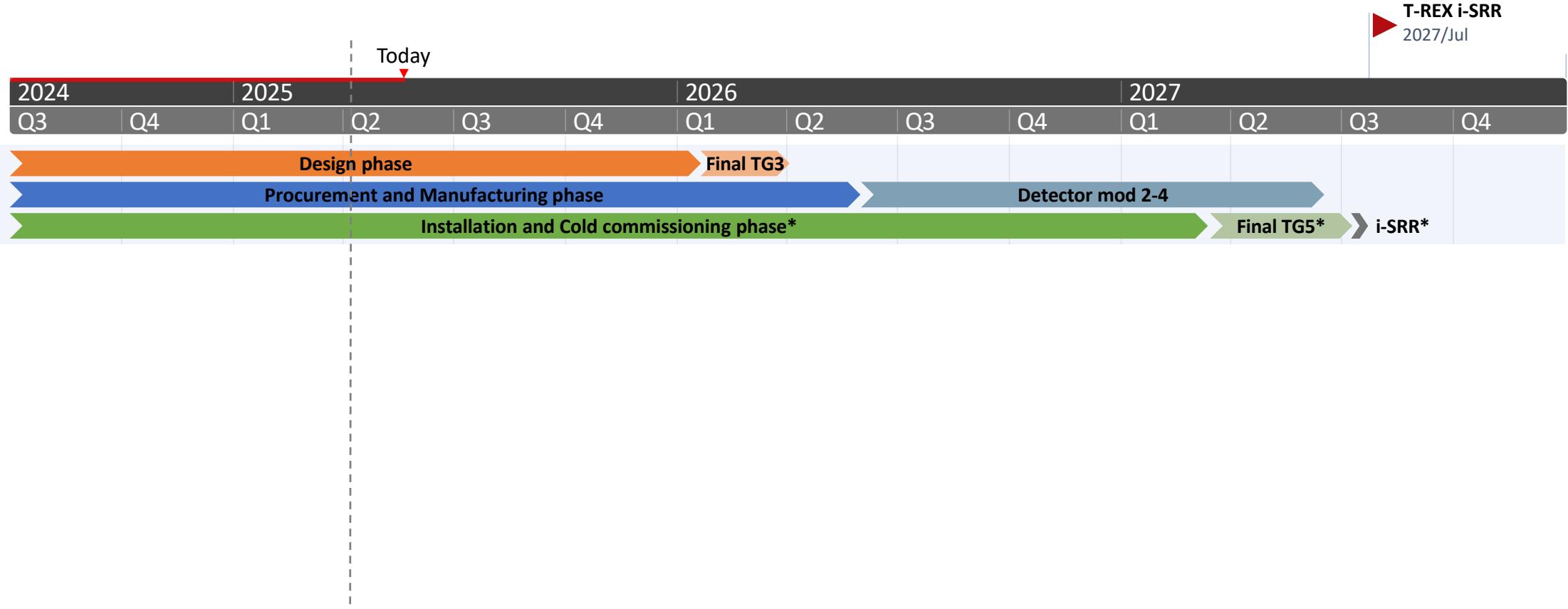
Progress of tranche 2

March 2025 P6 lockdown



Progress of tranche 3

March 2025 P6 lockdown



Time for TG5 prep and closure

To be evaluated

The T2T3 instruments have **five months** from “components installed, and local SATs completed” to “TG5 approval”. To be evaluated after tranche 1 passed their TG5.

Skadi Critical Paths

Data from P6 January 2025 lockdown



Critical paths

When a delay impacts the end date of a project

- We measure float towards BOT (T1) or the instrument's TG5 (T2T3)
- If the first critical path has 0 float. If there's a delay of 1 month, TG5 will shift 1 month.
- If the second critical path has 2 months float, it will push TG5 if there's a delay of more than 2 months.
- The length of an activity reflects the start and the end of an activity, not the amount of time spent during that time period.
- The critical paths reflect the activities that are critical from a schedule perspective, not necessarily critical (high risk) from a scientific or technical perspective.
- Critical paths based on P6 lock down (month indicated in the heading).

Activities on the critical paths should a priority for all of us!

Magic Critical Paths

Data from P6 April 2025 lockdown
Today

Final TG3

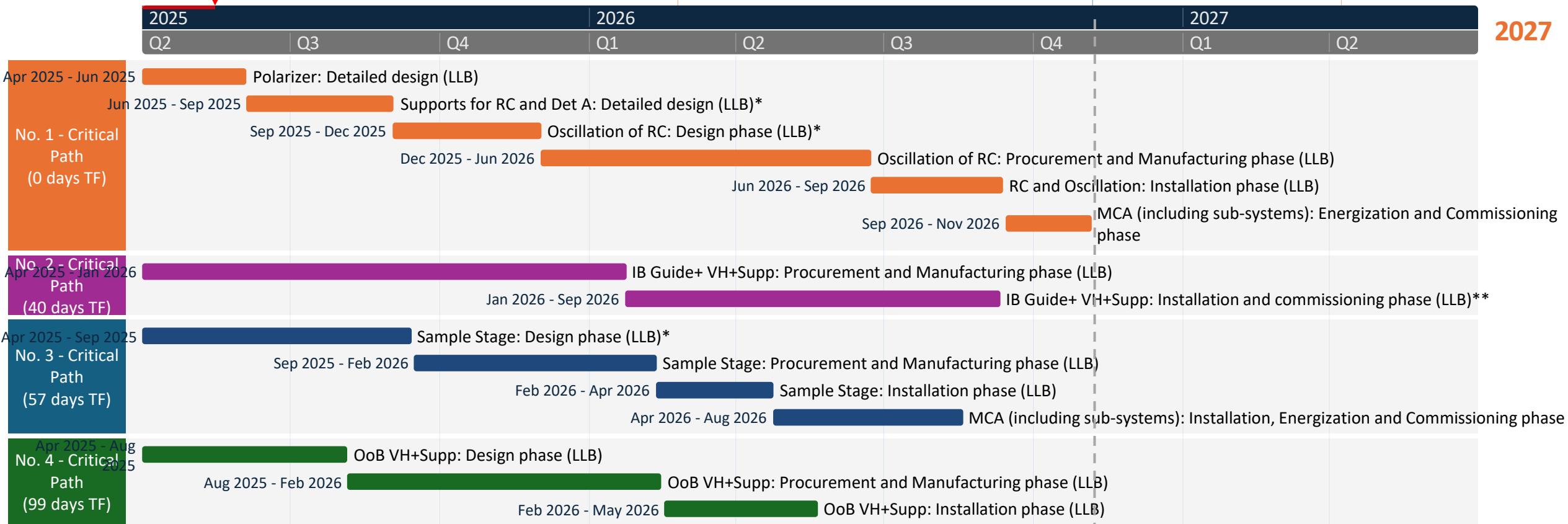
Feb 23, 2026

Start of CC

Nov 5, 2026

TG5/SAR approval

Apr 7, 2027



Design phase ends at CDR approval

Procurement and Manufacturing phase ends at FAT closure of open points

Installation and Commissioning phase ends at SAT approval

TF: number days of **total float** to instrument's TG5

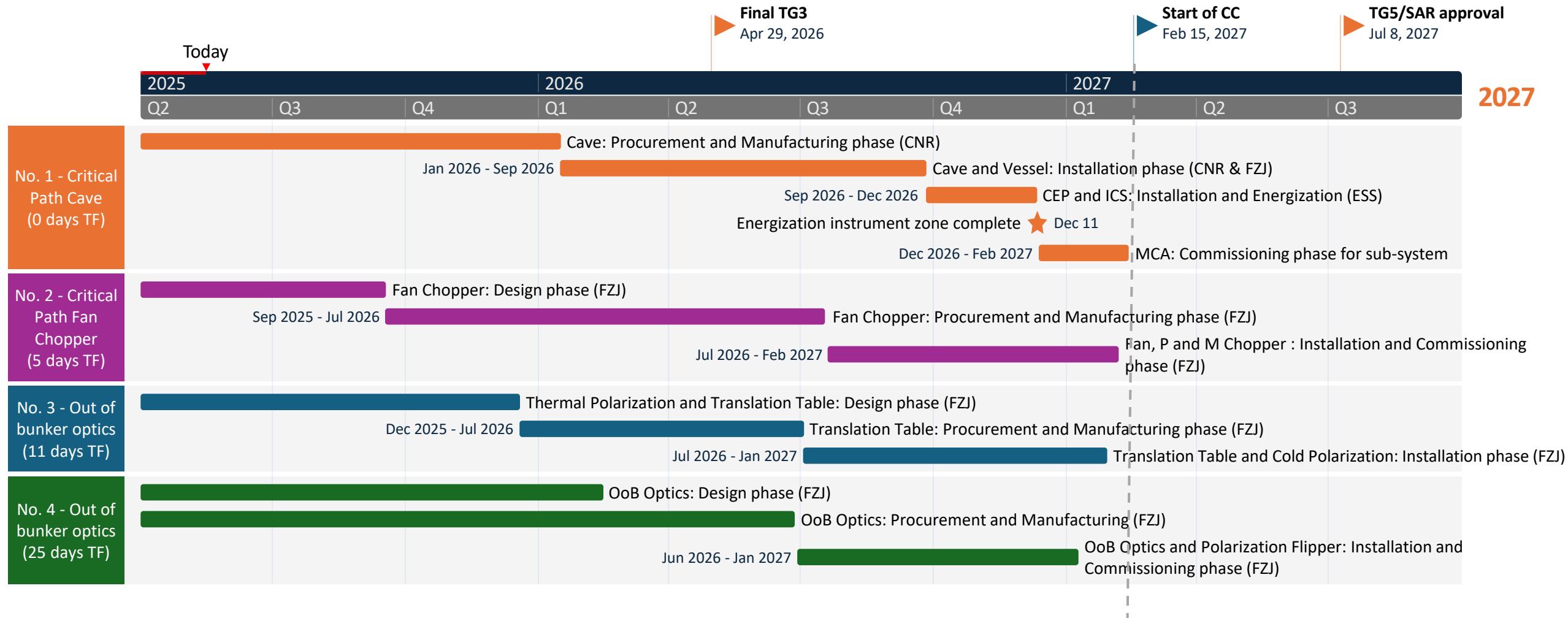
*Constraints on design resources

**Installation linked to first access after BOT.

Note: 2nd segment of Analyzer is part of the instrument scope but currently not linked to TG5 in P6

TREX Critical Paths

Data from P6 April 2025 Lockdown



Design phase ends at CDR approval

Procurement and Manufacturing phase ends at FAT closure of open points

Installation and Commissioning phase ends at SAT approval

TF: 2025-11-05 SKA1-ICP

Note: MG detector boxes 2-4 (including 18 modules) is part of the instrument scope but currently not linked to TG5 in P6. MG Detector box 1 (including 6 modules) has 91 days of float

Schedule adherence



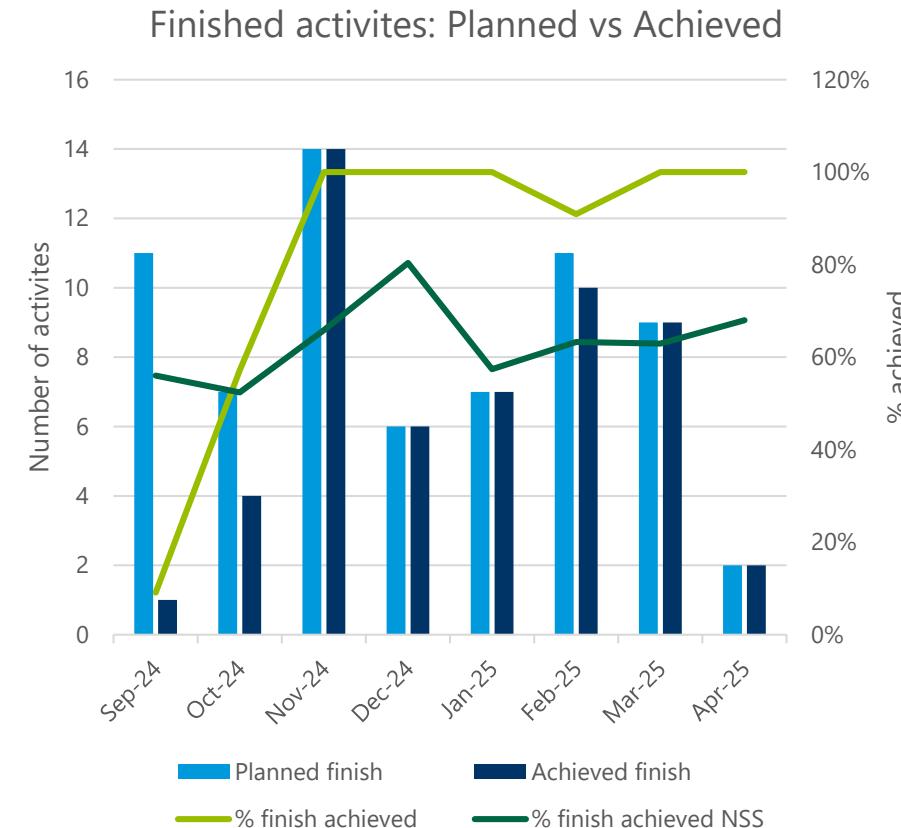
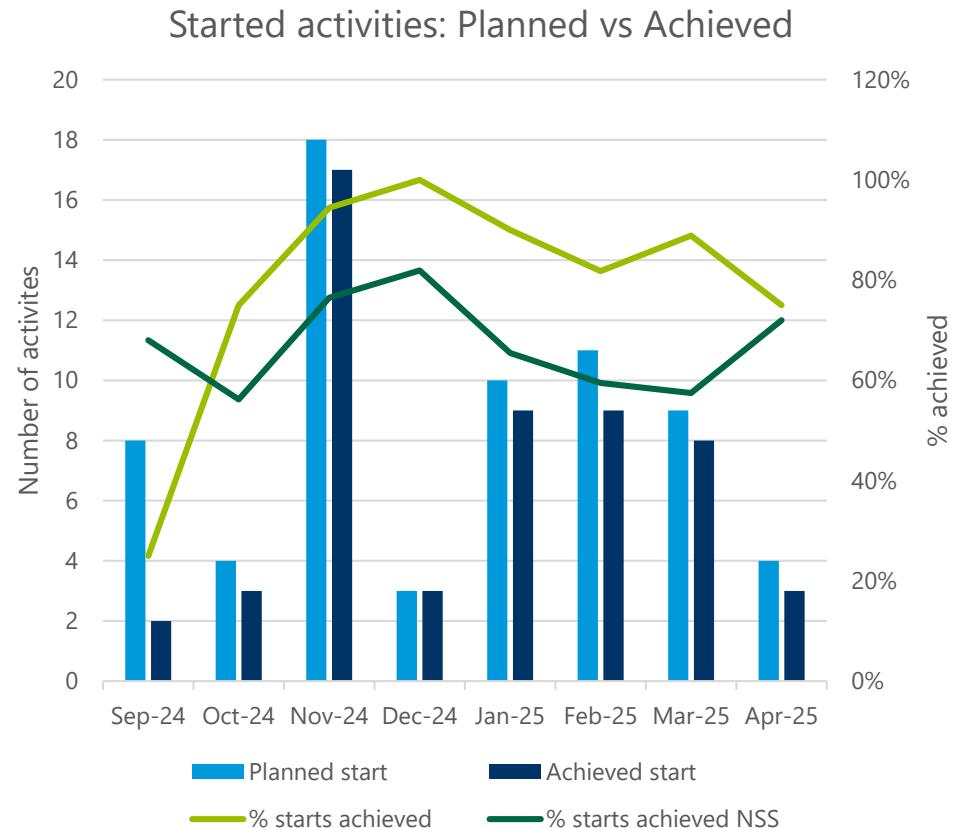
Sticking to the plan from month to month

1. Monthly progress updates with Mehrdad (T2T3 planner).
2. Last minute e-mail from Sofie asking to *review the planned activities for the coming month*
3. After lockdown we evaluate how much of what was planned was achieved (starts and finishes)

It's the instrument plan not the planner's plan, which is – of course – dependent on other groups' plans in P6

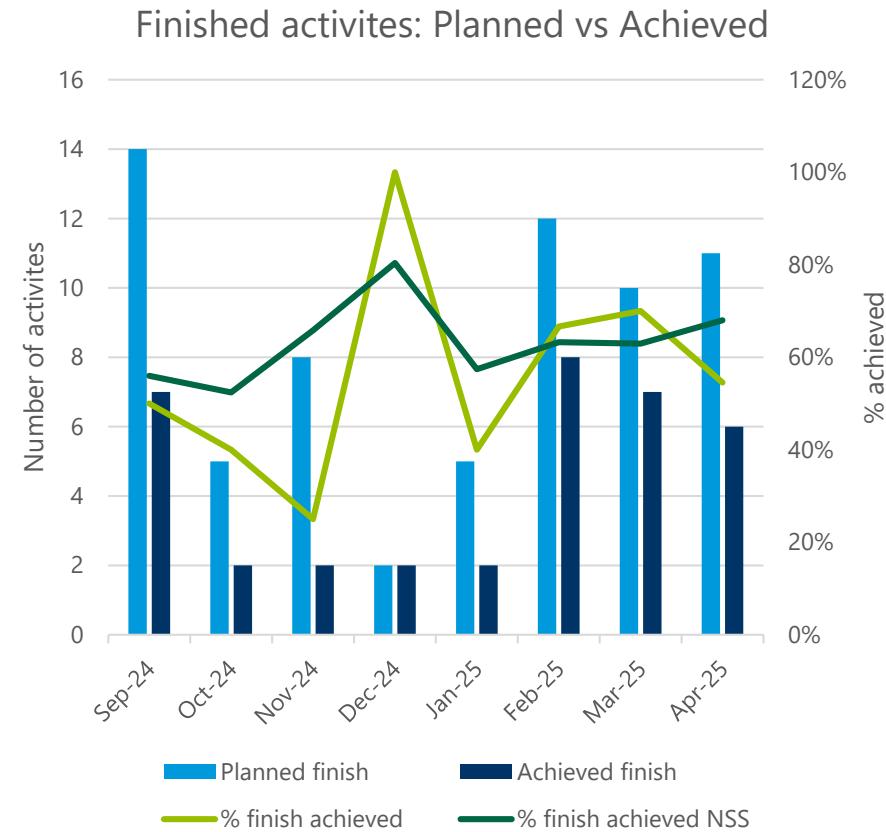
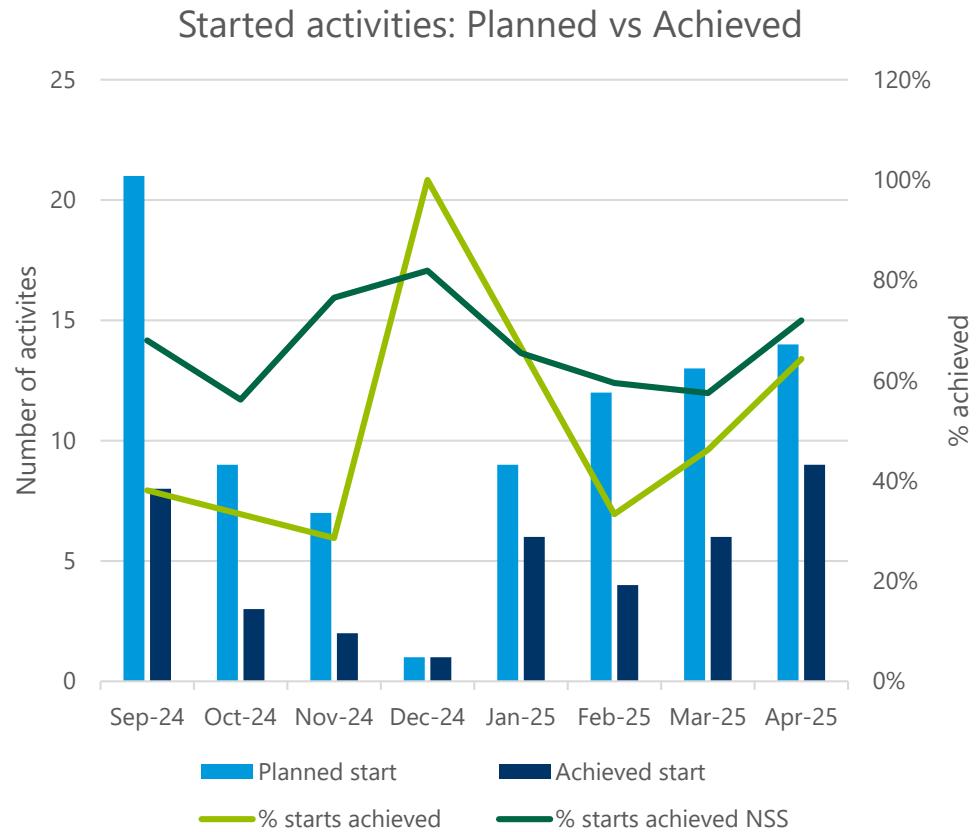
Schedule adherence

Most months – SKADI is above average on schedule accuracy



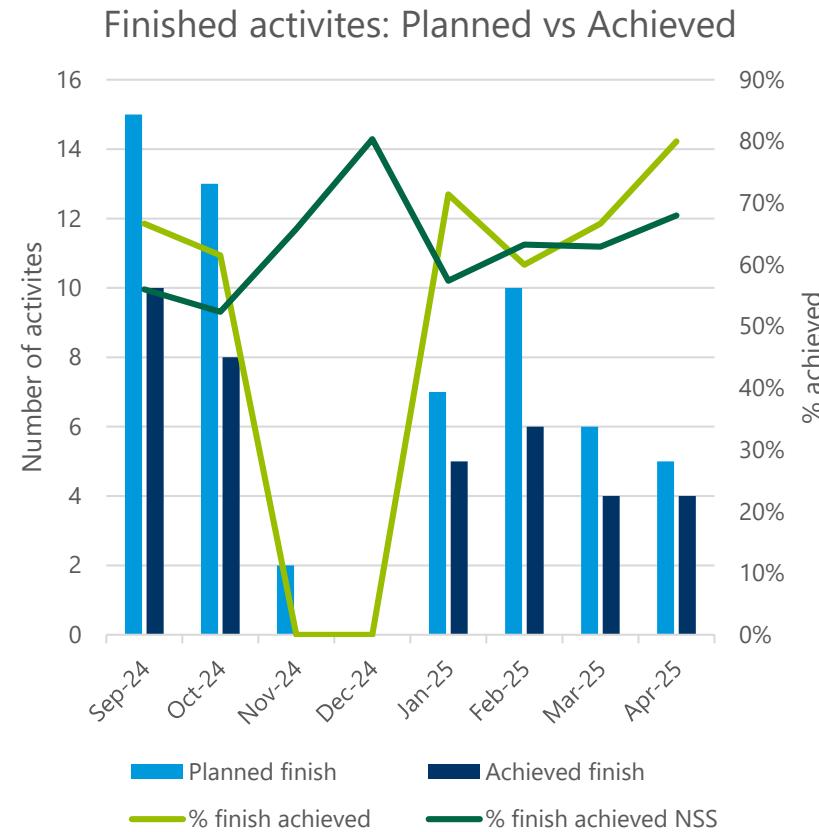
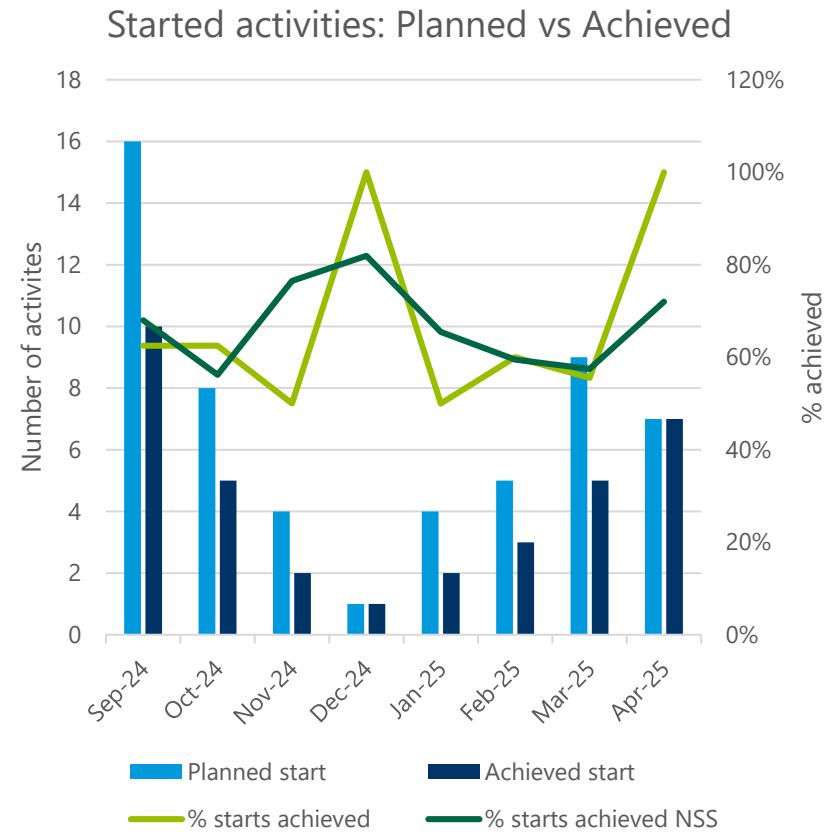
Schedule adherence

Most months – MAGIC is below average on schedule accuracy



Schedule adherence

Most months – T-REX is average on schedule accuracy



Earned value

TA milestones with budget

Comparing scheduled (in the replanning) vs. performed (lockdown), cumulative to date

- Schedule Variance
- Schedule Performance Index (SPI)

An example... if by April 2025:

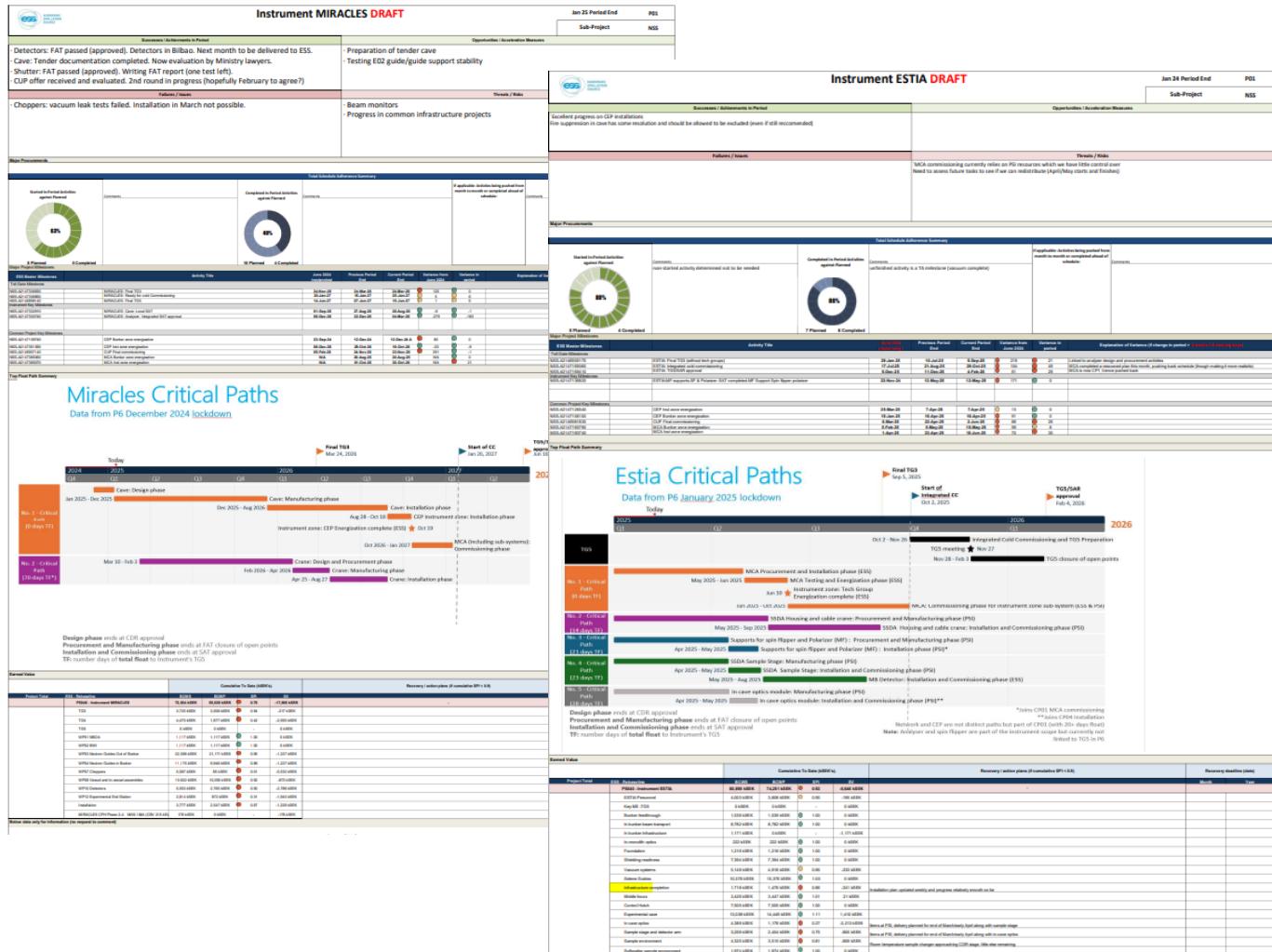
- Scheduled to have been earned / completed (as per replanning): 5 553 kSEK
- Performed: 1 424 kSEK
- > Schedule variance -4 129 kSEK
- > SPI 0.26 (performed/scheduled=1424/5553)



Some of the next steps

Updated dashboard

Comparing with dates from the replanning



Measuring against replanning dates. The detailed schedules gives more data to monitor progress and evaluate status.

- Critical paths
- Key milestone
- Earned value analysis
- Schedule adherence

Change request to be implemented in P6

Ways we're supporting

As discussed in ICB:s

- Design support to instrument teams
 - Support to Magic and T-REX ongoing
- Technical writers support to instrument teams
 - Support to Skadi ongoing (TG3 documentation)
- Instrument Infrastructure Coordinator
- Framework agreement for false floor signed with MSHIELD
- Common projects offer, based on service level (vs. as before - detail design)
 - More efficient
 - Increased cost risk for ESS
- Rigging is now charged on NSS OCC
- NSS is continuously working on finding other ways to mitigate and/or accelerate

Working together towards a common goal



Partners have been asked for proposal for additional acceleration measures, to be funded by partners and/or contingency funds.

Let's keep an open dialogue and find mitigations jointly





Thank you! Questions?

2025-11-05

CR - replanning

Ongoing

The replanning was done for all Tranche 2 and Tranche 3 (T2T3) instruments and started in December 2023 and was concluded in January 2025

The Change Request (CR) with the updated schedule will be implemented in P6 (PMB), dates to which WP manager and instrument teams will be held accountable.

All T2T3 Instrument (ESTIA, BEER, FREIA, MIRACLES, MAGIC, CSPEC, SKADI, T-REX and HEIMDAL) excluding VESPA.