



PROGRESS ON GTC ENGINEERING OPERATIONS



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GTC Users Committee. September 2026

Scope



- Operations

- Statistics

- Maintenance

- Telescope
Services
Instruments

- Projects & Activities

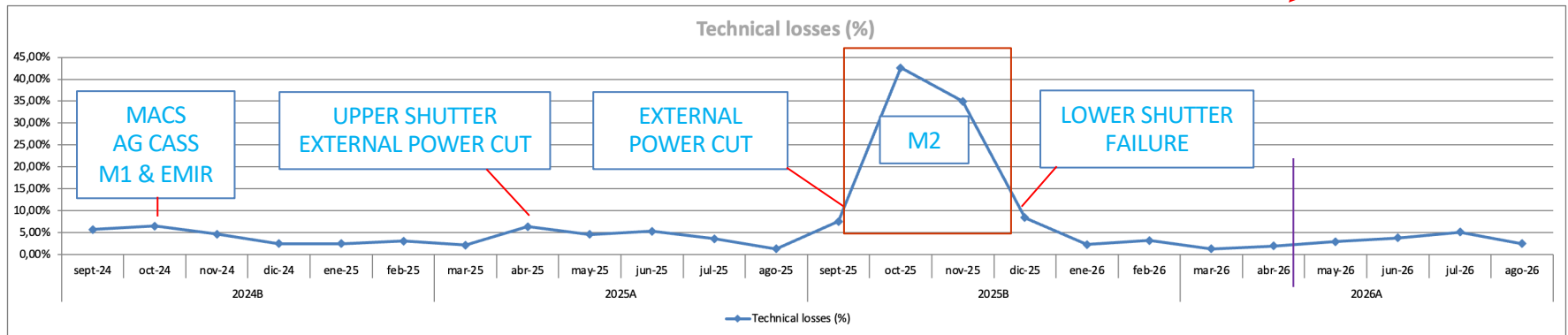
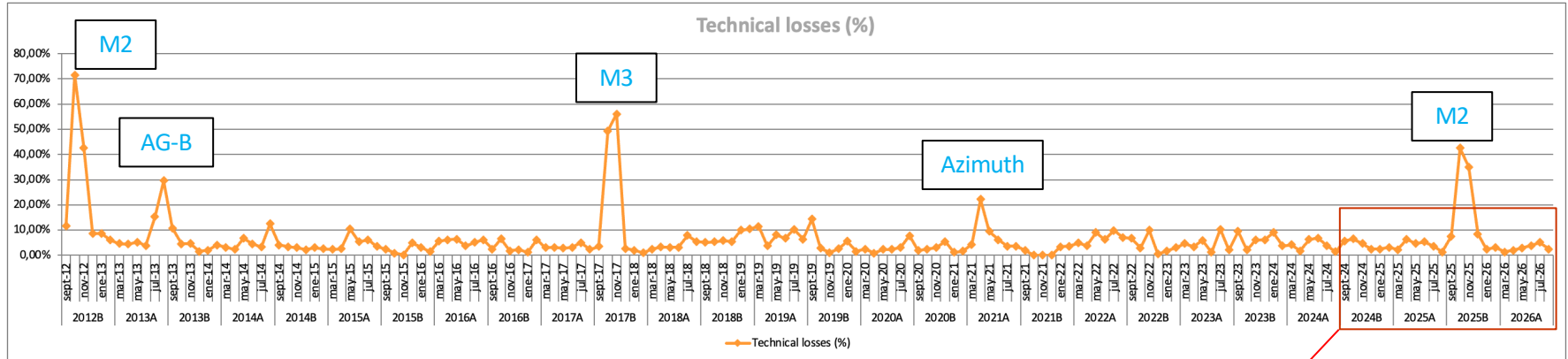
- Performance GTC 2026
Projects



Operations – Statistics #1



Technical losses: Accumulated average **2025B 18,10%** | **2026A 3,11%**



Operations – Statistics #2

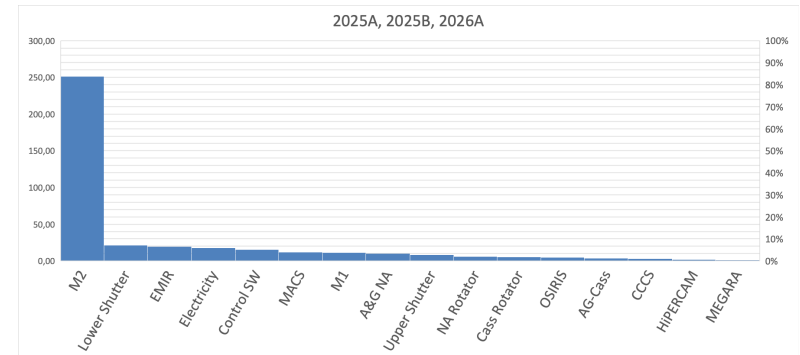
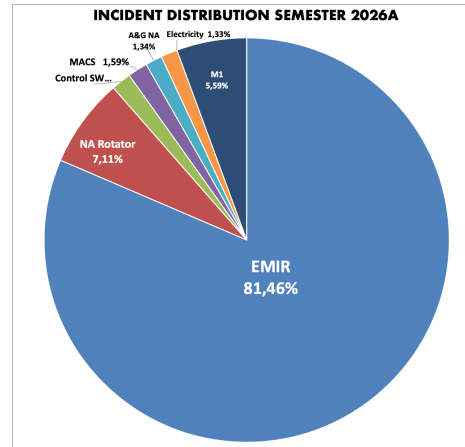
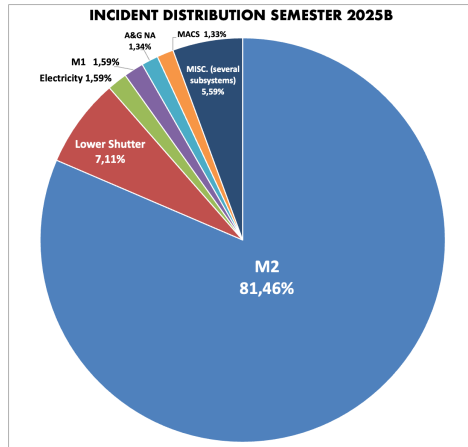


AG-NA CALIBRATION CCD: **Detector issue affecting co-phasing/alignment; guiding unaffected. Calibration capability maintained at Nasmyth B. In progress.**

ELECTRICITY: Power grid instabilities in La Palma and observatory networks caused operational impacts: **In progress.**

DOMES ROTATION RAILS: Cracks detected in the rotation rail. Corrective repairs are ongoing; the permanent solution requires replacement of the rail supports and resilient pads, involving staged lifting of the dome and bogies. **In progress.**

Other problems that did not cause any loss of time but are very relevant: a) Nasmyth A Rotator Encoder issues currently mitigated by a workaround. Full intervention scheduled for September 2027, requiring removal of EMIR and the Nasmyth A Acquisition & Guiding system b) an uncoordinated road closure caused moderate logistical impacts. **In progress.**



Operations – Statistics #3

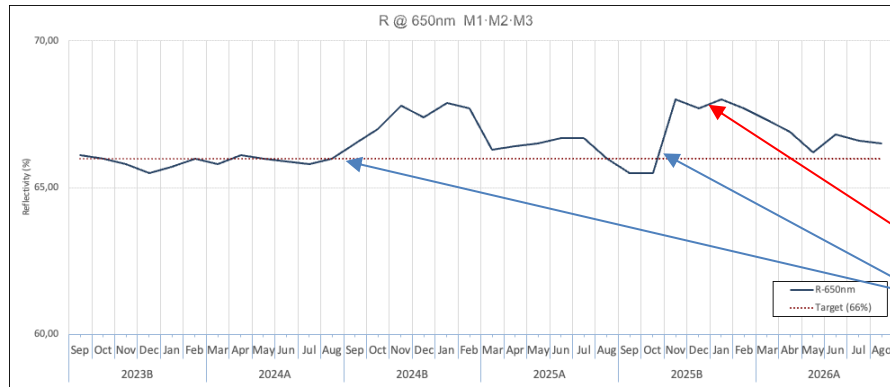


Optical Quality of the Telescope:

Global Reflectivity (650nm – M1·M2·M3)

~ 66,5 %

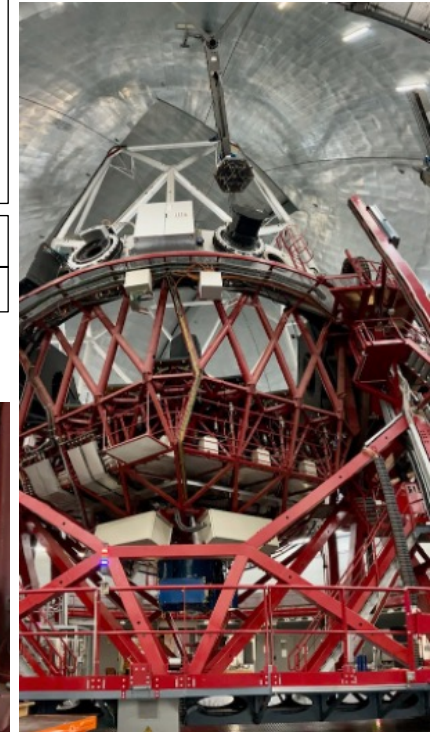
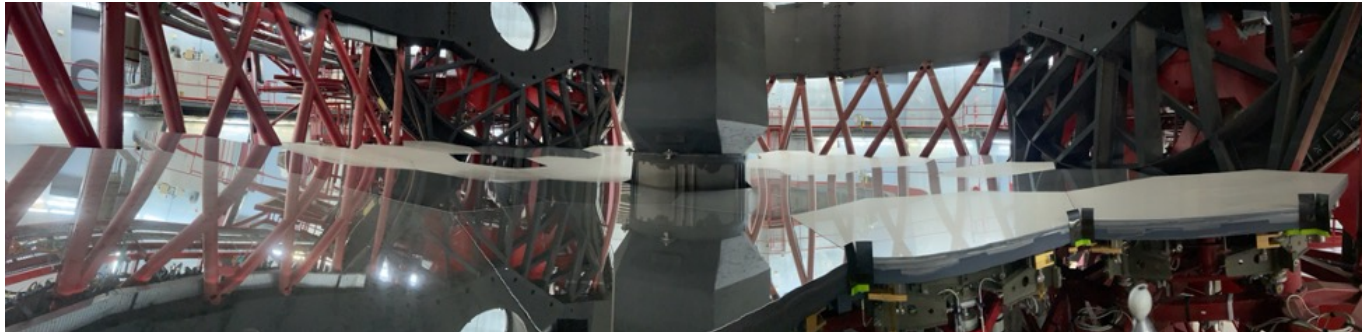
Replacing Primary Mirror Segments: 2024: 28 | 2025: 14 | 2026, since January: 8



18 in 2017 36 in 2018 !!!
18 in 2019 20 in 2020
22 in 2021 20 in 2022
28 in 2023 28 in 2024
14 in 2025

M2 re-coating (November 2025)

M3 on-site cleaning 2024 & 2025



Maintenance



■ TELESCOPE & SERVICES:

- ON-SITE Cleaning of M3 [**December 2025**]
- AG-Nasmyth arm removal (Nasmyth B) #2
- AG-Nasmyth diagnostic & Adjust #2
- AG-NA arm2. Hamamatsu Fast Guiding Camera
- M2 Chopper **recovered!** (under test)
- Support to the Performance Team (vignetting for improved co-phasing, etc.) **Good results!**
- Support to AG-Nasmyth corrections
- Others: SICM/M3 to Linux, IT, electrical system, etc.
- New Software (GCS) Release
- Dome rotation rails degradation

Completed

Completed

Completed

In progress (new)

In progress

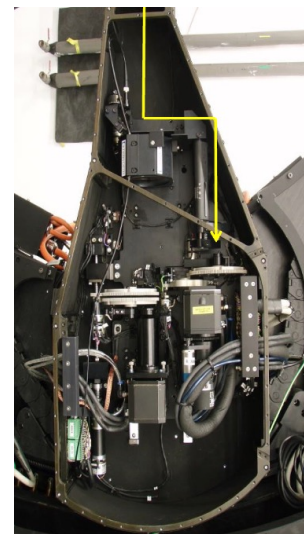
In progress

In progress

In progress

In progress (this week)

In progress - In study



■ INSTRUMENTS:

- EMIR: CSU electronics cards: currently being tested
- OSIRIS: MAAT final Tests (Science presentation)
- MEGARA #1: Cryostat Maintenance cycle/Lab. intervention
- MEGARA #2: Detector realignment on optical Bench
- MEGARA #3: Camera-cryostat realignment on optical Bench
- PICASSO: Support to Picasso Test

In progress

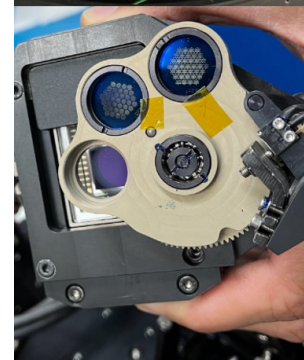
In progress

Completed (new)

Completed (new)

Completed (today!)

In progress (new)



Projects and GOI Activities



Performance GTC 2026 > New Team (GOC-GD)

[[2025] Fine-tuning performance to strengthen Nominal Status and introduce improvements)

Cophasing in 50 nm rms Accuracy (Aug. 2026)!

PROJECTS:

▪ Solar plants + solar carport for CALP	Completed
▪ Creation of an AI Team (5+ engineers)	Completed
▪ Firewalls	Completed
▪ Several Maintenance Tenders ongoing	In progress
▪ Auto-protection Plan & Risk/job analysis	In progress
▪ Prescriptive GTC Digital Twin	In progress
▪ Data Analytics & intelligent data mod.	In progress
▪ CCCS update (edge)	In progress
▪ Adaptation of the Main Data Centre	On hold
▪ GRANTECAN new Website	In progress
▪ Robustness of cold water control	In progress
▪ Upgrading Remote Control Units (Scada)	In progress
▪ GRANTECAN Data Management Plan	In progress
▪ GTC passive-house area refurbishment	In progress
▪ Supporting the integration of the LGS	In study

