

Future RAEGE station in Gran Canaria

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IGN/Yebes Observatory

- The RAEGE project
- Former Station Site
- New site and new station project
- Latest works
- Schedule
- Current status and next steps

- Red Atlántica de Estaciones Geodinámicas y Espaciales
- Partners: IGN-Spain & GRA-Portugal
- 4 geodetic stations

<https://raege.eu>

Contribution to the UN 69/266 resolution:

“A global geodetic reference frame for sustainable development”

Baseline lengths:

- Yebes – Gran Canaria: 1,800 km
- Yebes – Santa María: 2,000 km
- Yebes – Flores: 2,400 km
- Gran Canaria – Flores: 2,000 km
- Santa María – Flores: 540 km





- Jorge Juan radiotelescope (Yj)
- Inauguration: Oct-2013
- First fringes: R4663 Nov-2014 (tri-band)
- VGOS receiver since feb-2016
- **First VGOS fringes in Jun-2016**
- Yebes correlator in Jun-2023

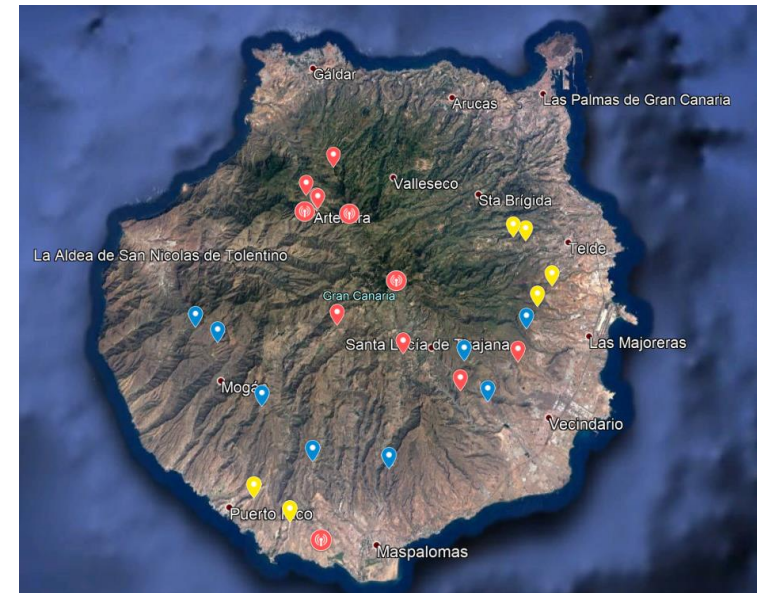


- Christopher Columbus radiotelescope (Sa)
- Inauguration: May-2015
- First fringes: R11000 May-2020 (tri-band)
- Legacy S/X observations until Sep-2022
- VGOS receiver installed in Oct-2022
- COST filters (to reject radar) installed in Jan-2023
- **HTS filters installed in Sep-2023**
- **Observing for VGOS since Nov-2023**
- Recently equipped with 5G notch filters (3.4 – 3.8 GHz)

- First site selected was Artenara
- July-2020: UNESCO declares Artenara area as World Heritage
- IGN decides to move the station to avoid damage to UNESCO declaración



- July-Nov 2020: Alternative sites evaluated across the island
- RFI and soil tests performed on different sites
- **New location identified: Temisas**
- Project design for new station contracted in Apr-2022
- MoU for land granting was signed in Aug-2022
- Cabildo granted IGN the land in Mar-2023
- Construction license granted in Sept-2024
- Contract for construction published in Mar-2024, awarded in Oct-2024.



- Meanwhile, the antenna parts are stored in containers in good conditions (inspected in July-2023)



Container with reflector panels



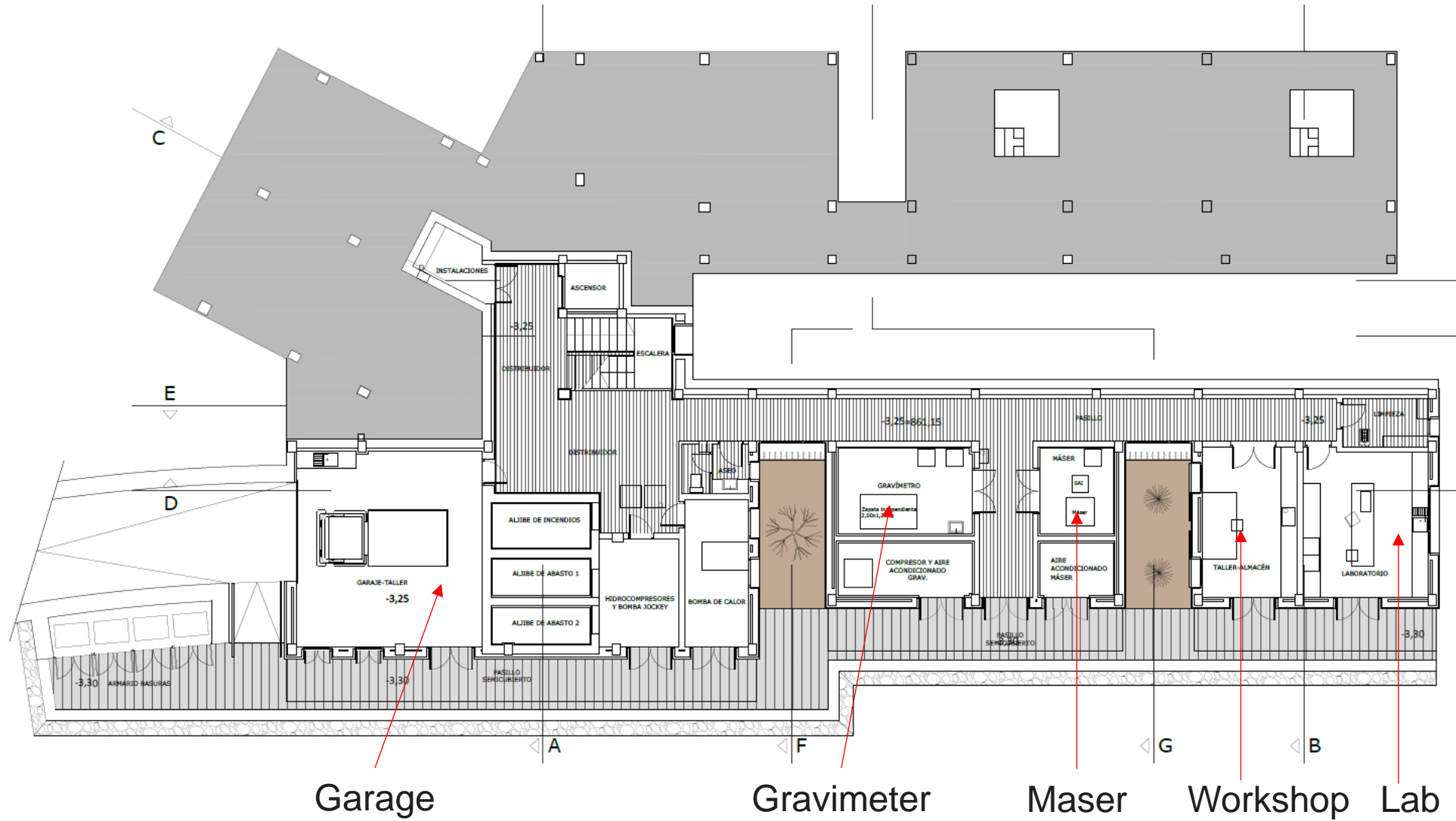
Inspecting the gearboxes



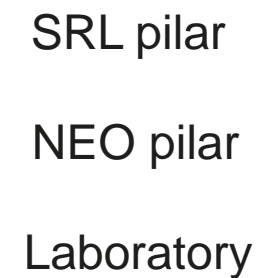
Azimuth cabin



Level -1



Backend room



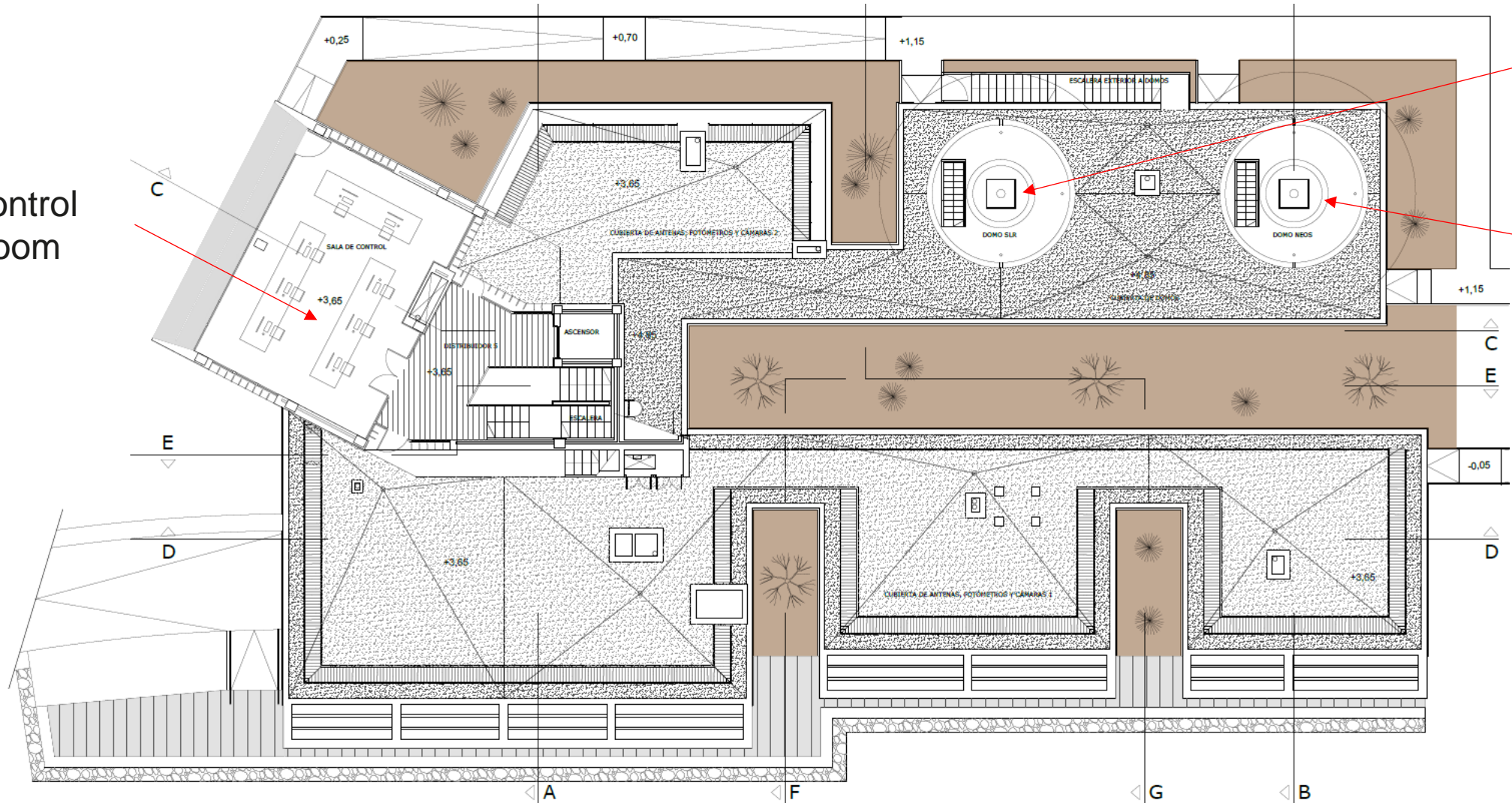
Bedrooms

Level 1

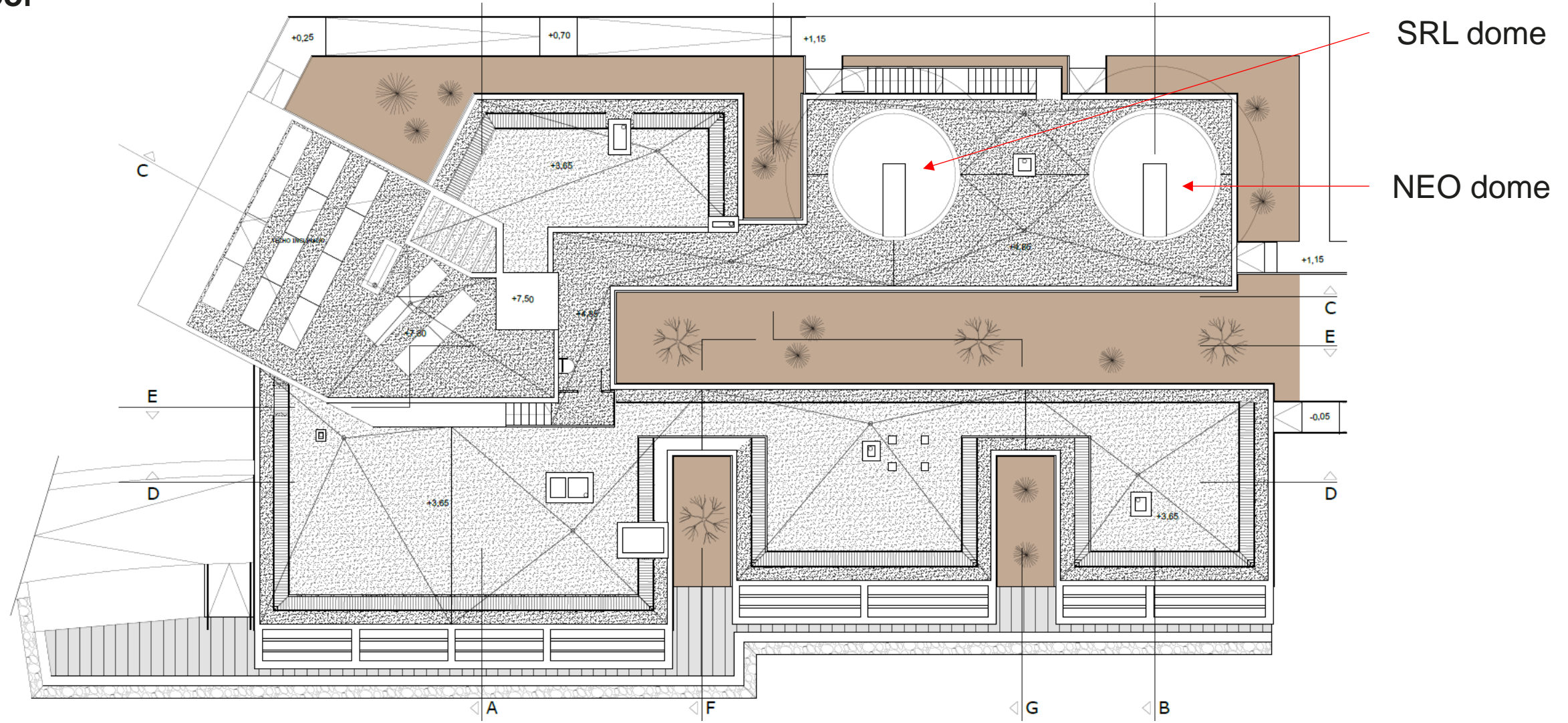
Control room

SRL telescope room

NEO telescope room



Roof





Juan Sebastián Elcano radiotelescope
(J. S. Elcano was the first to circumnavigate the Earth (Aug-1519 to Sep-1522))



Reaching the station from the road



Main building



Control room



Hall - Reception



Classroom (40 people)



Kitchen – Offices – Labs - Bedrooms



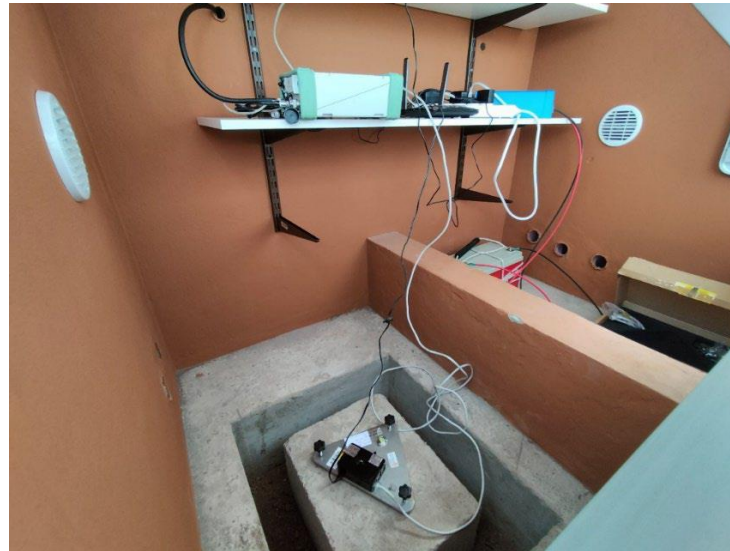
SLR & NEOs domes





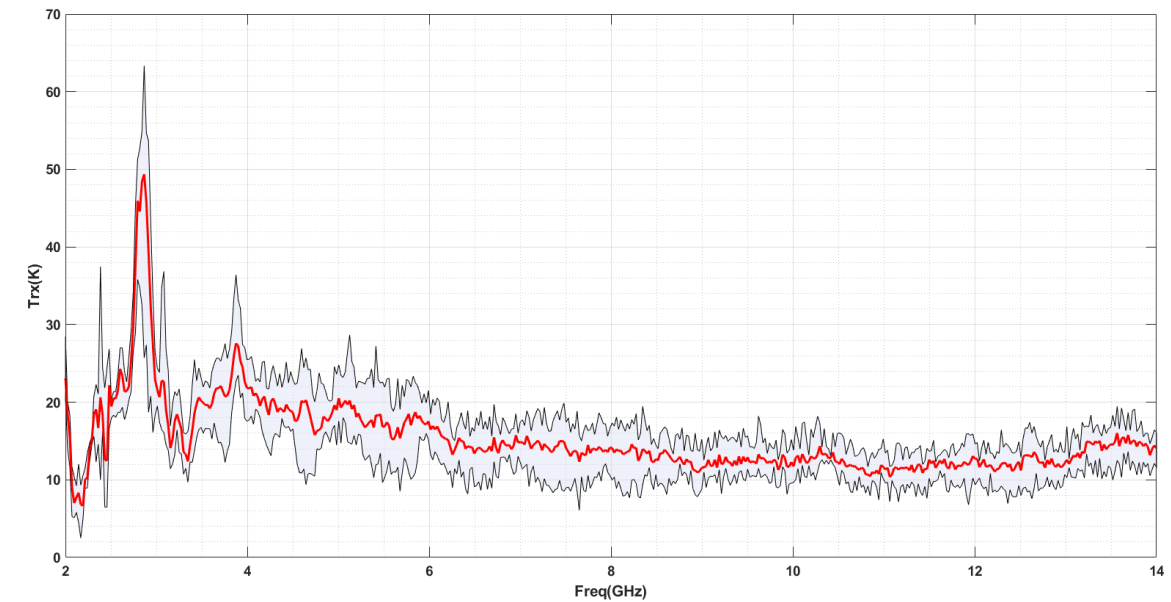
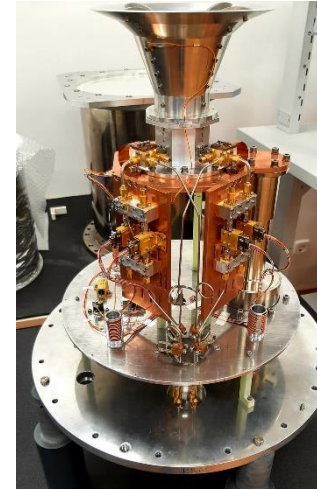
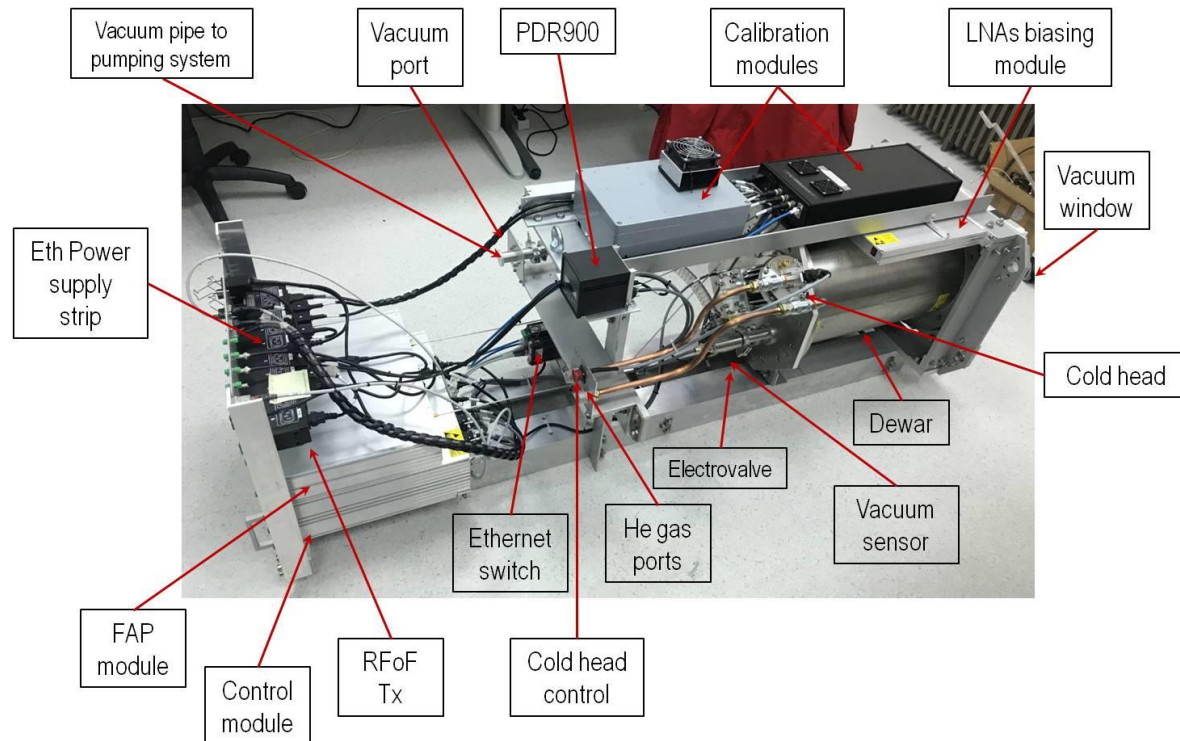
April 2024:

- Shed for solar panels that hosts batteries and instrumentation
- Site prepared to install the weather station (MET4A Paroscientific)

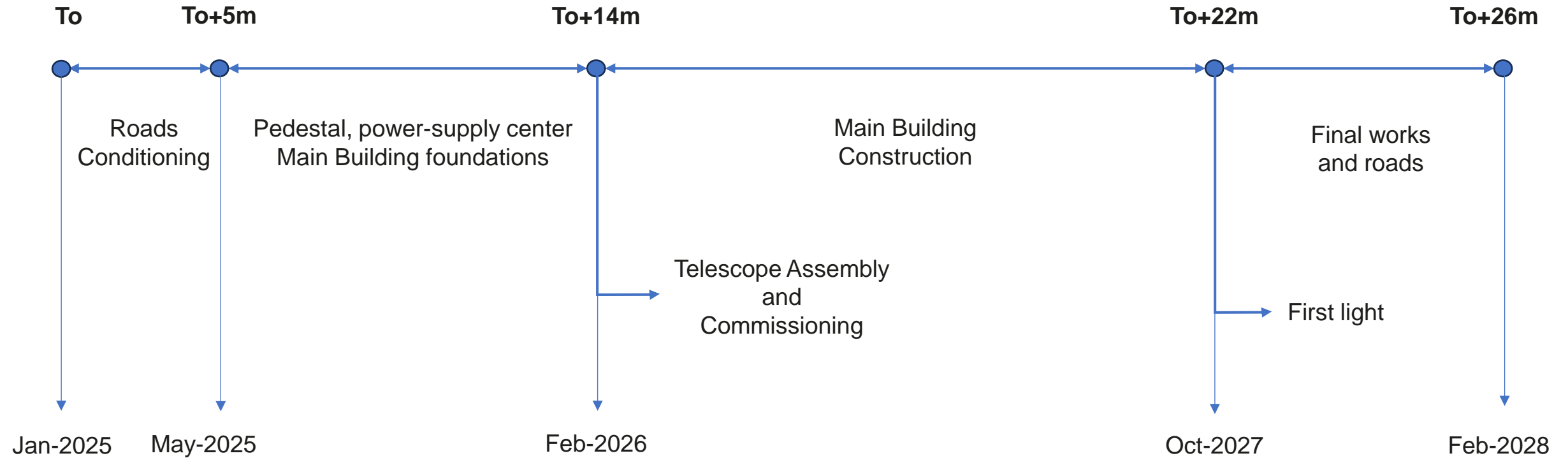


GNSS pilar

- VGOS receiver for this station to be developed along 2025



Construction Schedule



- Contract for station construction awarded to SERANCO (5.5 M€)
- Contract for supervision awarded to APPLUS NORCONTROL (250 K€)
- Both contract to be signed by mid-November
- Kick-off meeting by early December
- Civil works starting in January-2025





Thanks for your attention !

