

RIMA/Izaña status – 2024



University of Valladolid | Spanish Meteorological Agency

<https://aerospain.aemet.es>

Back in 2004

AERONET workshop at Huelva, Spain



Calibration centers (2006)



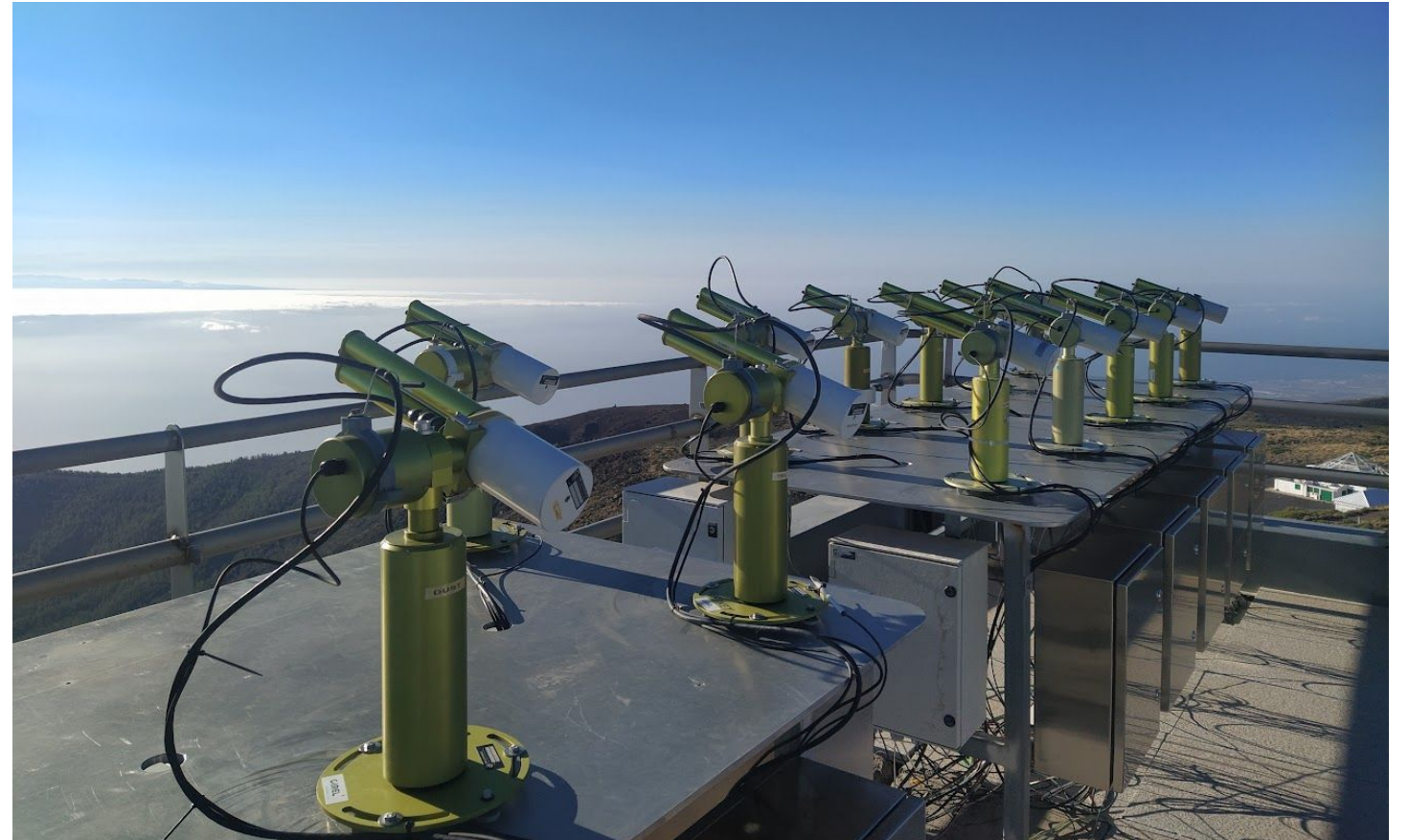
Calibration facility at Valladolid

- Roof platform:
16 robots for Cimel
side-to-side
calibrations
- Ancillary
instrumentation: all-sky
cameras, ceilometer,
solar radiation



Calibration facility at Izaña

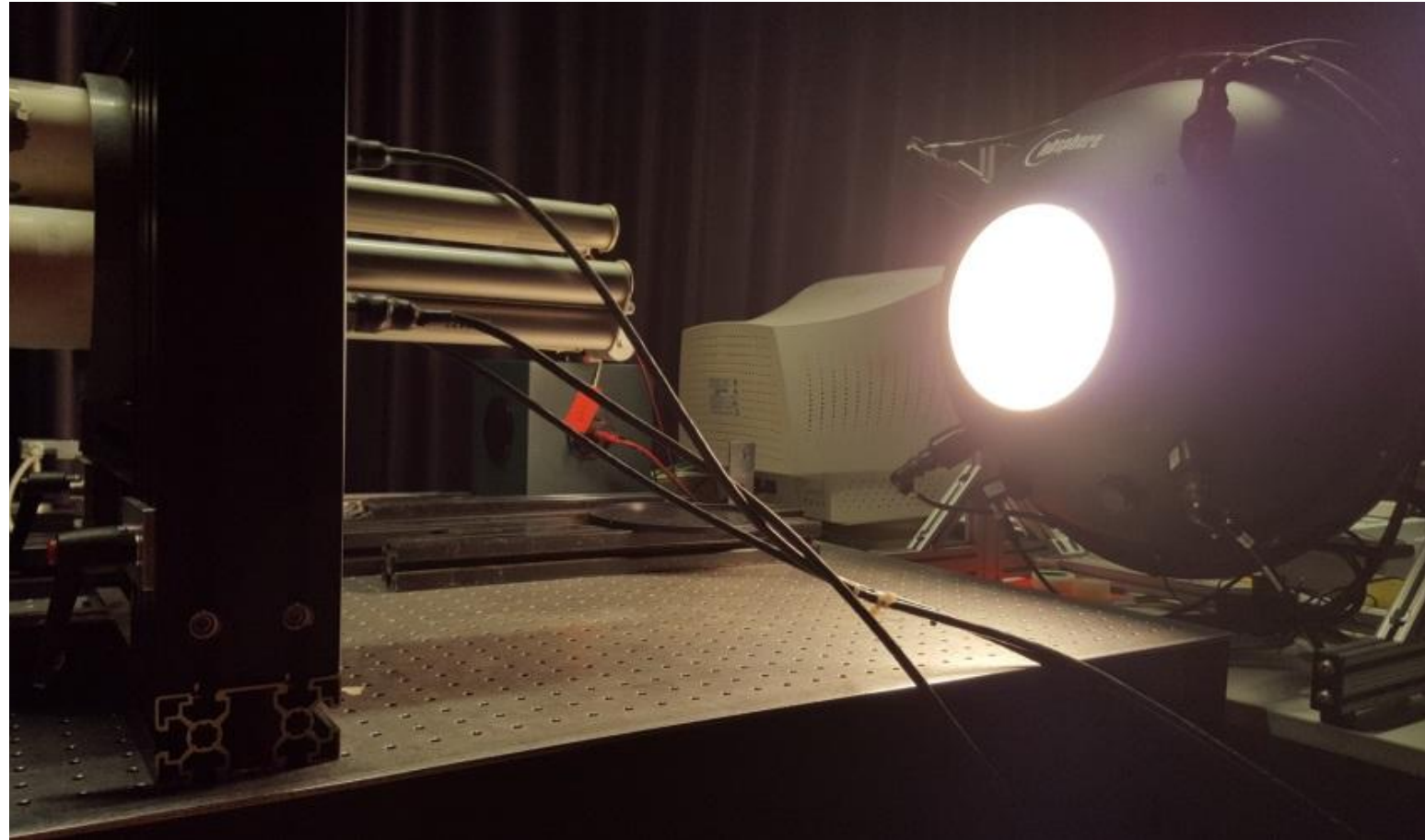
- Roof platform:
20 robots for Langley calibrations.
- World-class observatory for atmospheric composition: CO₂, aerosol, main radiation networks: GAW-PFR, BSRN, Brewer, PGN, etc.



Calibration lab at Valladolid

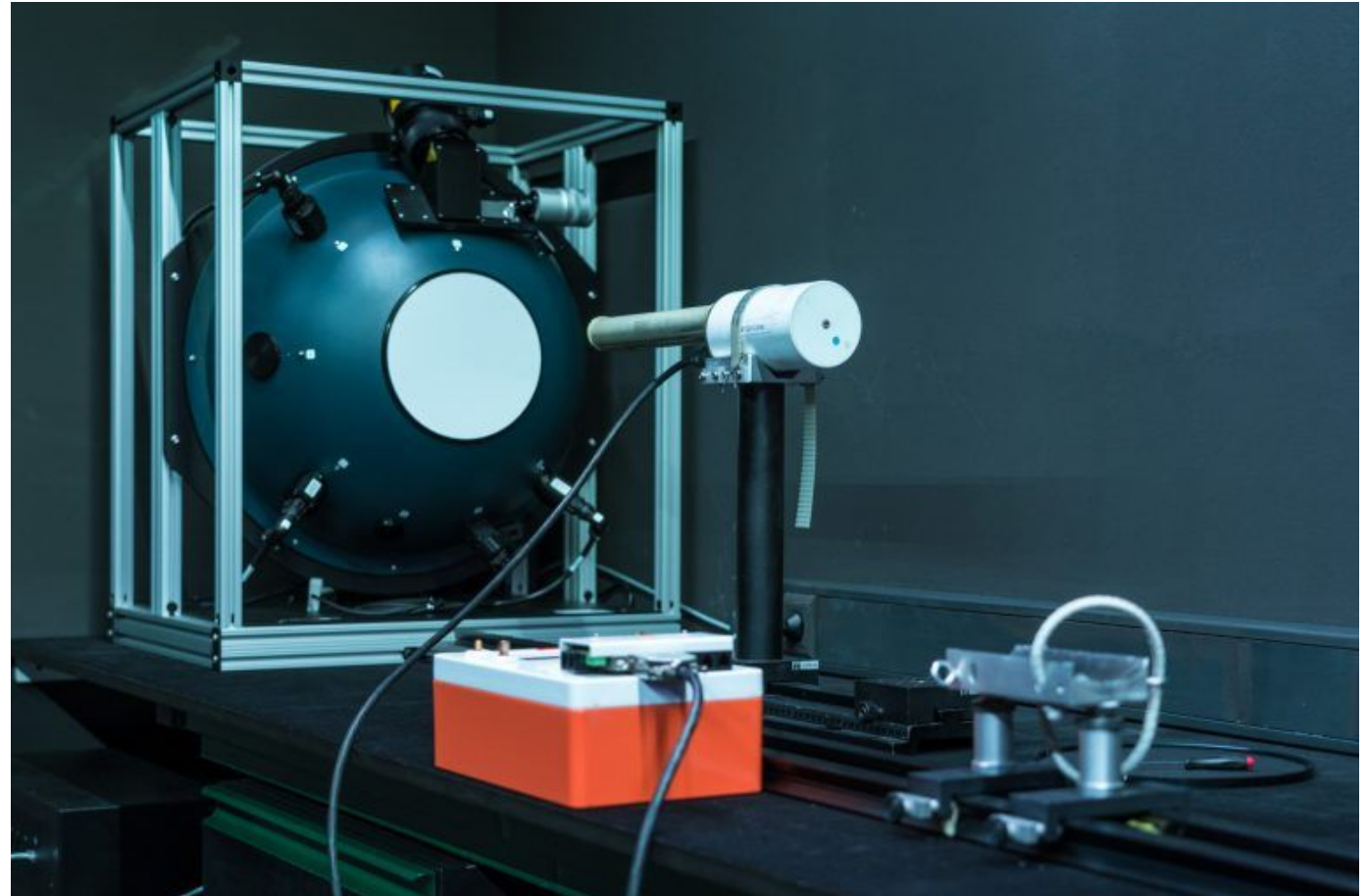
- 20-inch, 4 lamp sphere
- Spectrometer OL750
+ reference lamps

- Optical bench
- 8-inch sphere (back-up)
- Thermal chamber



Calibration lab at Izaña

- 20-inch, 4 lamp sphere
- Optical bench. Different set ups:
 - Set-up for the absolute radiance calibration by calibrated integrating sphere.
 - Set-up for the alignment of the Brewer spectrophotometer optics.
 - Set-up for the slit function determination.
 - Set-up for the angular response calibration.
 - Set-up for the absolute irradiance calibration by calibrated standard lamps
 - Set-up for the spectral response calibration.
- 8-inch sphere (back-up)



Traceability to PFR-GAW



PFR-GAW at Izaña since 2005

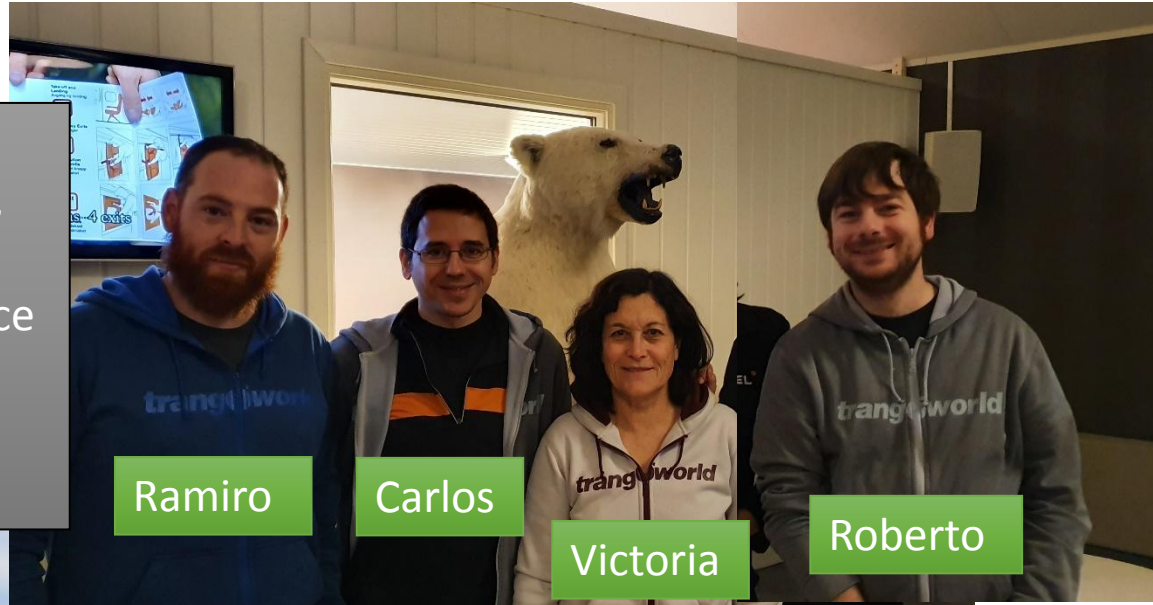


PFR-GAW at Valladolid since 2023

People - Valladolid



- Ramiro: masters, caelis
- Patricia: Sun cals, sphere, thermal
- Rogelio: roof, maintenance
- David: masters, shipping
- Carlos: coordination
- All: weekly checks



Ramiro

Carlos

Victoria

Roberto

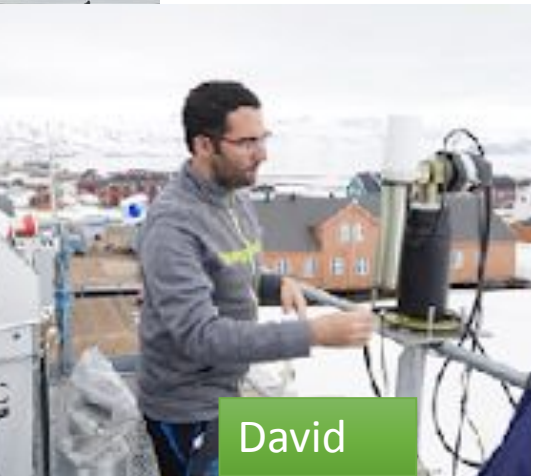


Patricia

Sara

Rogelio

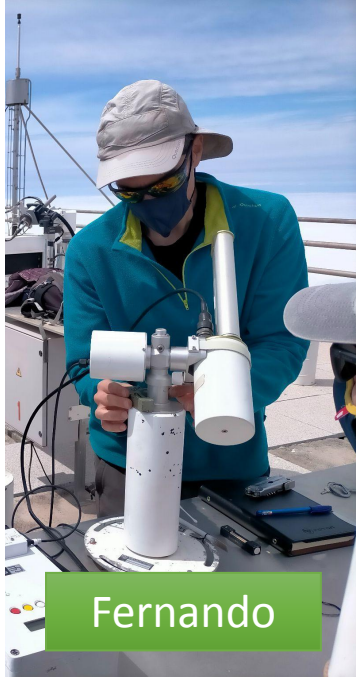
Daniel



David

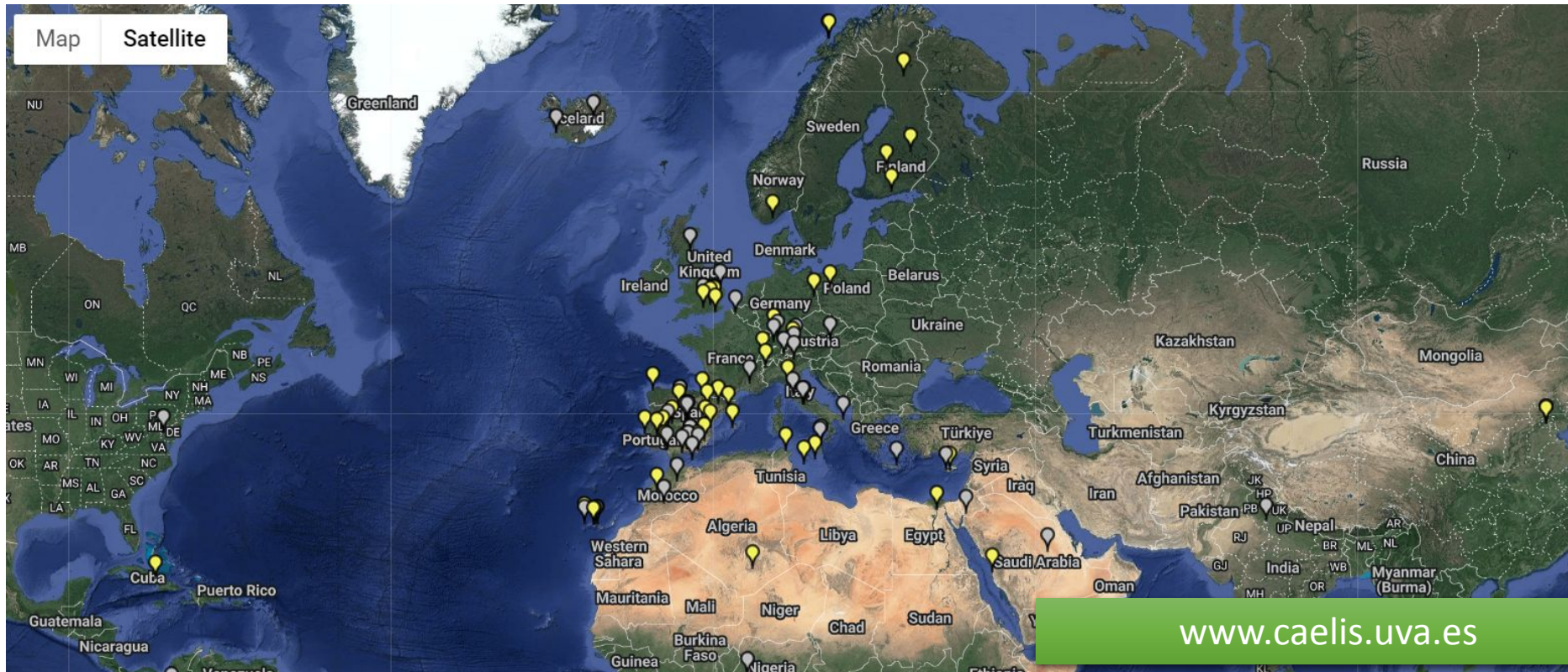
People - Izaña

- África: coordination (PI)
- Ramón: Observatory Director
- Óscar: roof, maintenance, Sun cals, sphere, masters
- Pablo: roof, maintenance, masters
- Fernando: Technical support
- All: weekly checks



AERONET calibrations

	Izaña	Valladolid	Total AEROSPAIN
N. of calibrations	24	50	74
Sites monitored	8	45	53
Sites owned	8	9	17



Joint research

- 30 papers in the last 10 years
- 3 PhD theses
- Moon photometry

Projects and stakeholders

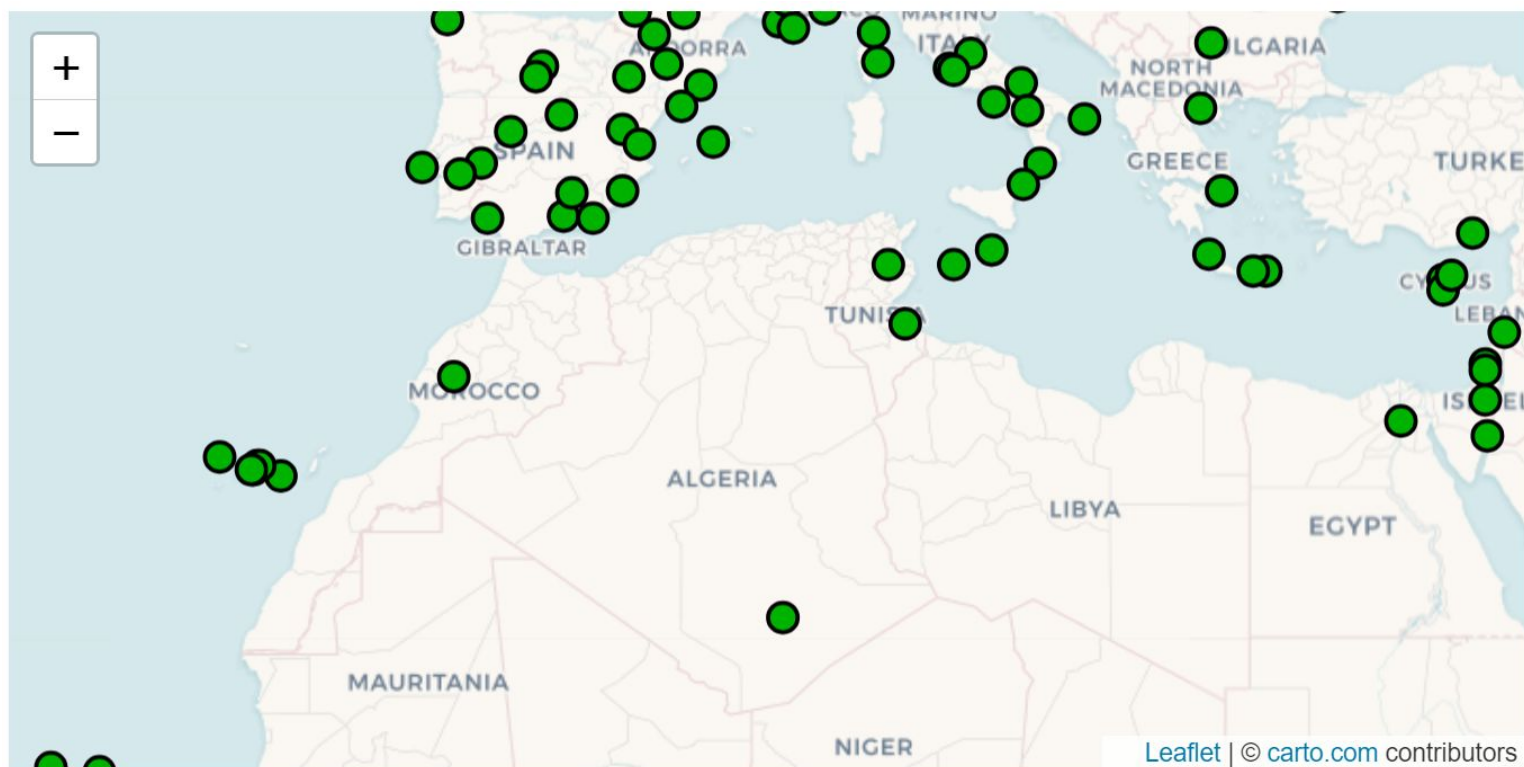
- ACTRIS
 - Just formalized as legal entity
 - Calibration units for AERONET photometers
- ESA Lunar Irradiance Model (LIME)
- Metrology for Aerosol Optical Properties (MAPP)
- Harmonia COST action
- WMO's Sand and Dust Storm Warning Advisory and Assessment System (SDS-WAS)
- EUMETSAT contract aerosol cal-val (FRM4AER)



WORLD
METEOROLOGICAL
ORGANIZATION

North – African sites

- Tamanraset (Algeria)
- Tunis-Carthage (Tunisia)
- Cairo (Egypt)
- Expected soon: Atlas (Morocco), Lybia (TBD)



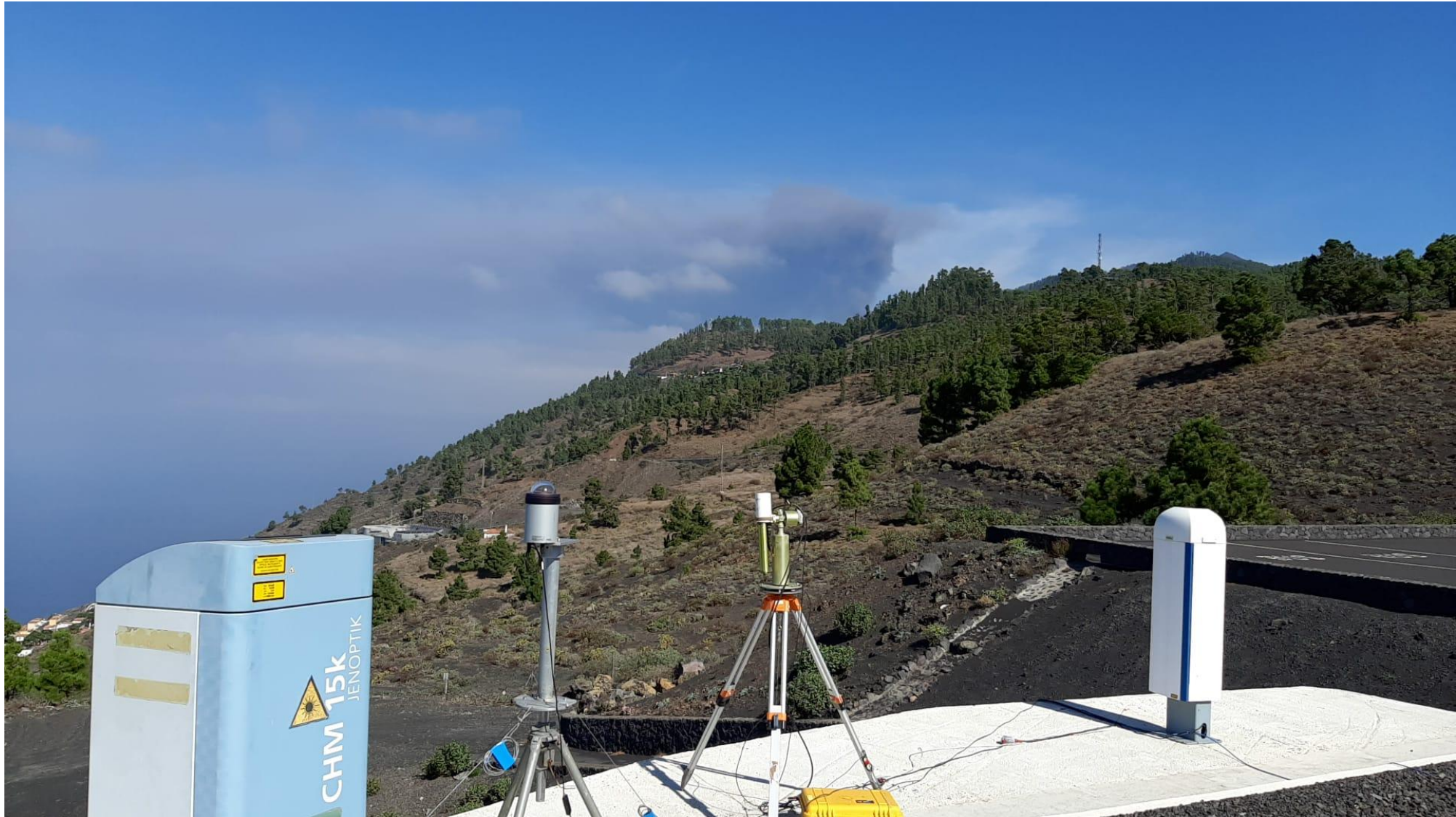
(active sites 2024)

North – African sites

Regular training course
for African AERONET
operators
(last one on October
2023)



Multi-instrument: La Palma eruption



Polar environments

- Heated robots
- Precipitation sensor
- Long cables
- Storm protocol





Thanks!

