

REUNA – SA3CC

May 2024



The Challenges of bring high quality connectivity in Chile

- Hard to reach places
 - high altitude
 - Geographically uneven
- Shortages of suppliers in places far from urban áreas
- Thin country, limits the possibility of having diverse roads with a geographical separation that allows increasing the availability of services
- Climate change
 - Winter with heavy rains
 - Summer with wild fires
- Increase in the cost of equipment and access to fiber or spectrum



REUNA in numbers and current infrastructure



+11.00 km
Network infrastructure

50
Organizations connected

30
Years promoting Chilean digital development

18
Points of presence located in the main cities

1300+ km
With Patagonia project: Connectivity to Punta Arenas

What's new from last SA3CC?



REUNA
Ciencia y Educación en Red

Chajnantor PoP

A REUNA project in collaboration with ALMA Observatory, to provide fast, reliable and secure connectivity to international astronomical projects located on the Chajnantor Plateau.



The **highest PoP for R&E** in the world

12 astronomical initiatives will be able to connect

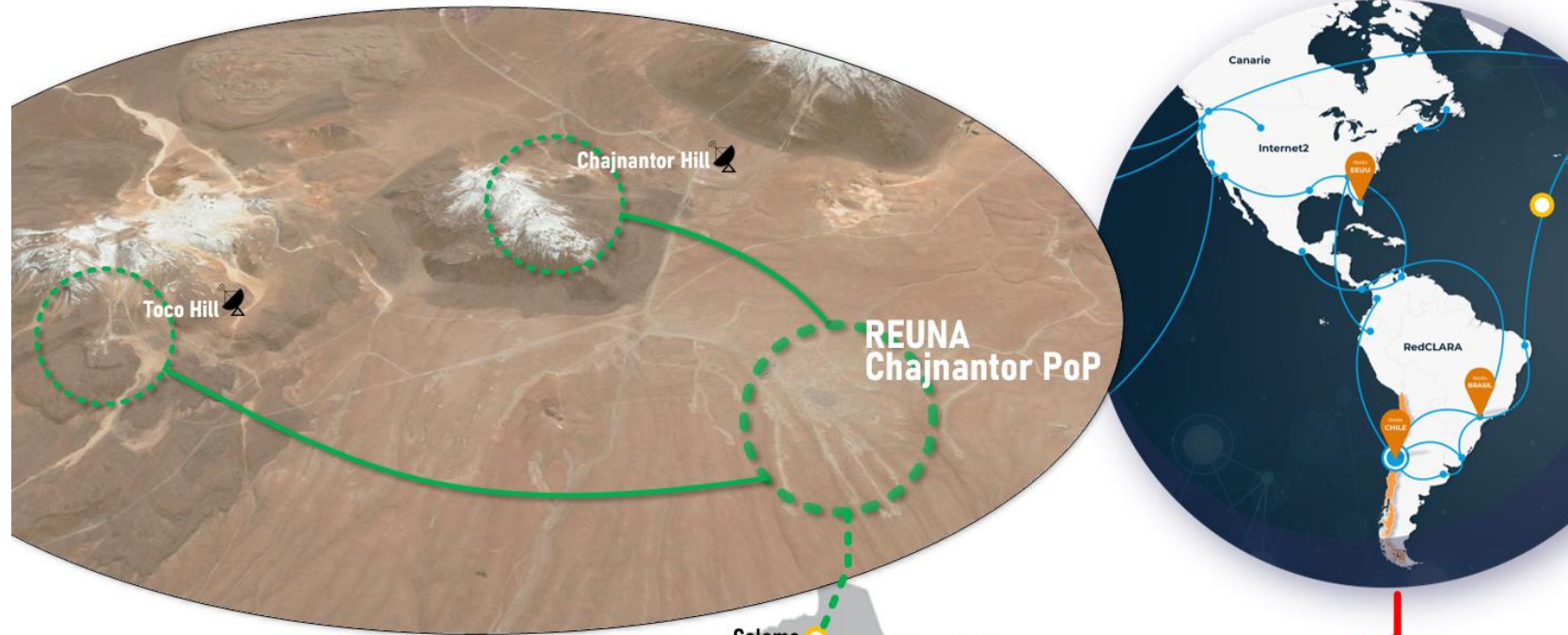
High speed data transmission

At more than **5,000 meters** of altitude

Remote operation of telescopes and more...

A collaborative connectivity to bring services to more astronomical projects in Atacama Desert

- REUNA, through a collaboration agreement with ALMA, accesses a portion of the connectivity infrastructure and installs its PoP in the ALMA data center in AOS.
- The telescopes or the Park made agreements with ALMA to achieve last-mile connectivity to connect the various hills to the REUNA PoP.



Observatories to be initially connected:

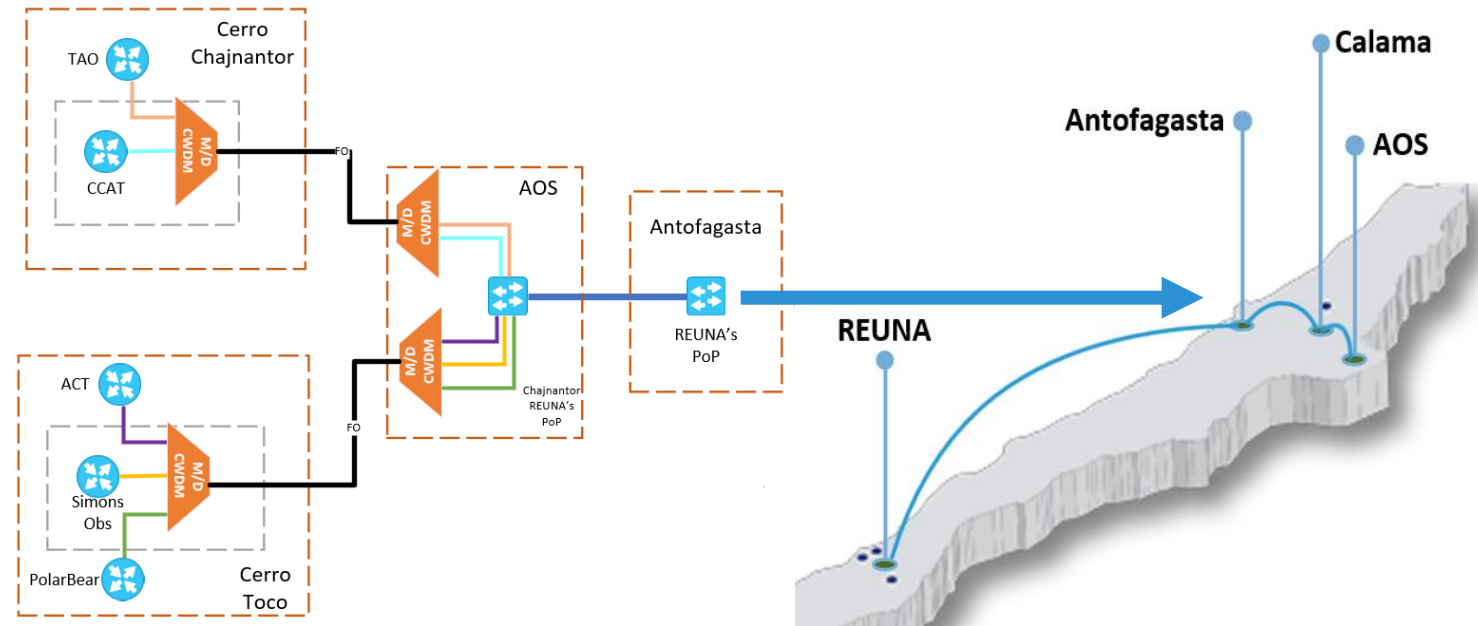


In collaboration with:



Connectivity to Cerro Toco almost done

- Simons Observatory will be the first telescope to be connected
- CWDM infrastructure to bring different lambdas to each project
- The implementation of the CWDM link is being deployed during this week



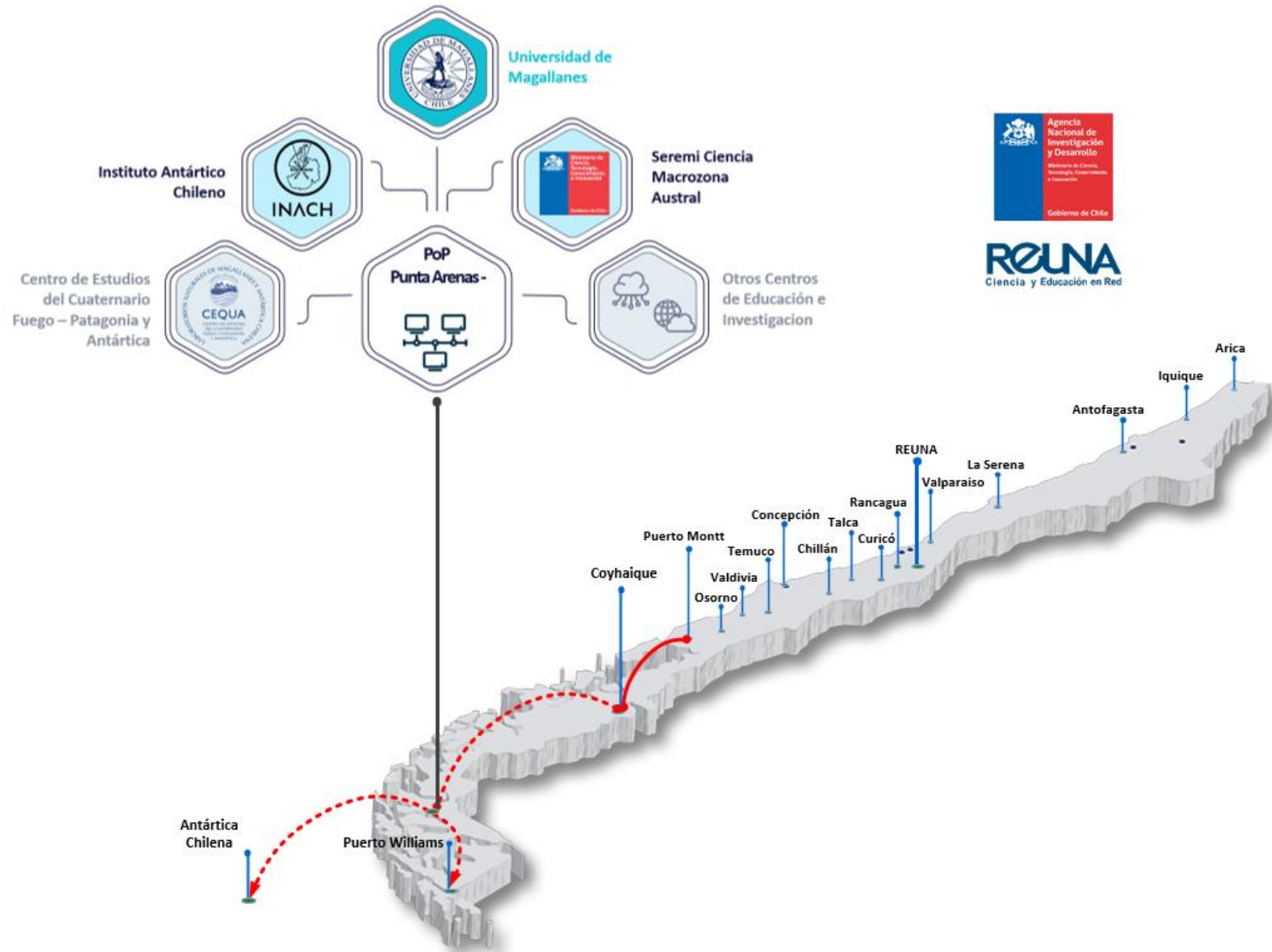
Extending the collaboration with ESO and ALMA

- ESO, ALMA, and REUNA are collaborating to address the next decade observation connectivity demands.
- Our objective is to enhance throughput from both observatories to Santiago, elevating it from 8 Gbps to 80 Gbps initially, with potential expansion to a shared 100 Gbps capacity.
- New DWDM OTU4 infrastructure.
- The project is currently in the implementation phase and is expected to be operational by the second semester of 2024.

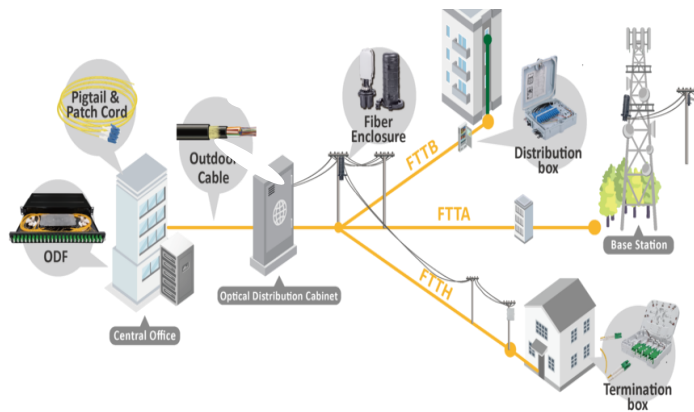


Patagonia Project: Punta Arenas PoP

- Implementation during May 2024
- Agreements done with local government to host the node
- Door to Antarctica
- Possibility to engage with satellite connectivity providers



Patagonia Project will use physical and wireless connections



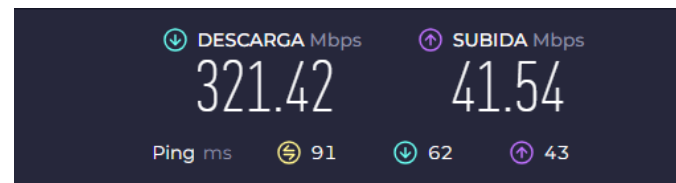
Fiber connection, 2022



Satellite connection, 2023



Wireless connection, 2023



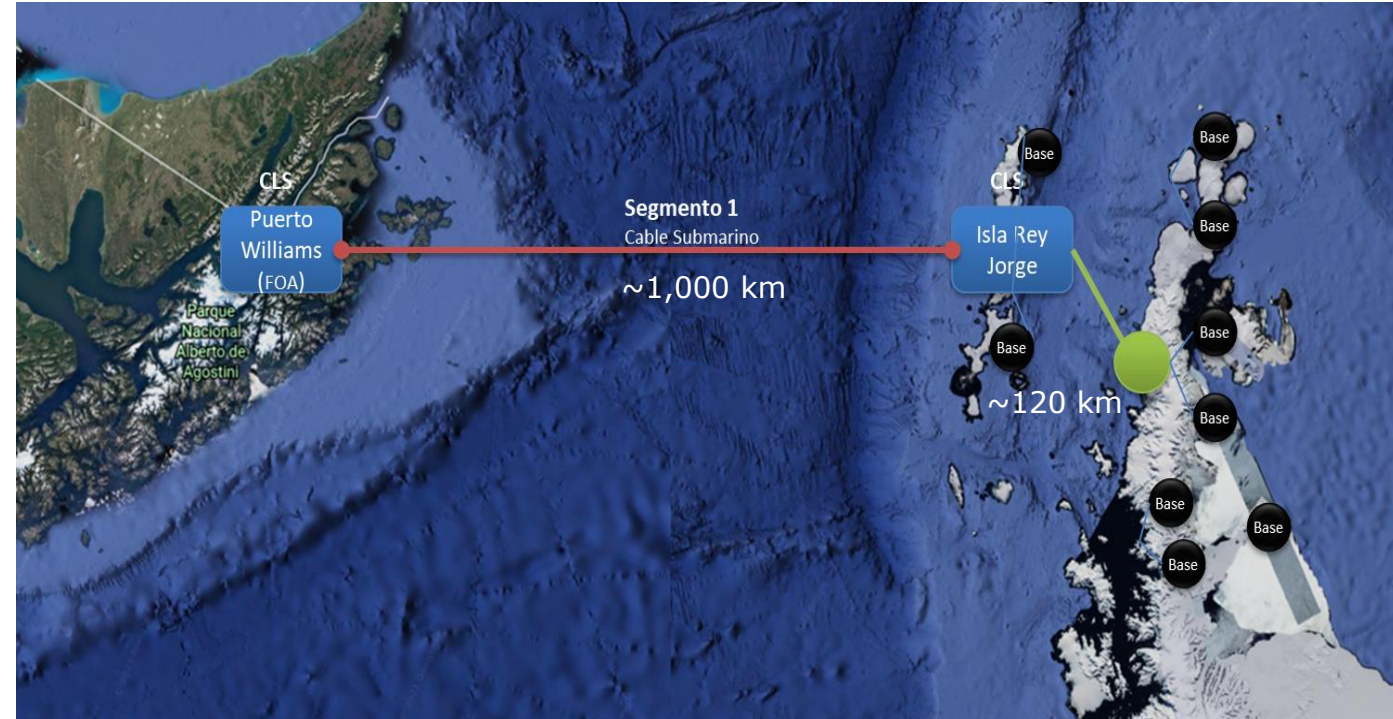
International Connectivity

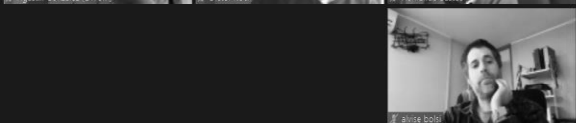
- 100 Gbps connectivity with RedCLARA with technical feasibility to rise to 200 Gbps
- We are founders of RedCLARA, members of BELLA and partners with Amlight.
- Working with BELLA 2 to expand the connectivity



Antarctica: A WORLD POLE FOR SCIENCE

- Antarctica holds important research centers and facilities given its unique characteristics for earth sciences and research.
- Global phenomena are studied there, including climate change, evolutionary and ecological processes, pollution, fishing activity, among others.
- Currently available digital connectivity is limited: limited number of satellites, reduced bandwidth and high costs.
- CAF and the Chilean Telecommunication Subsecretary signed agreement to fund feasibility study to be done during 2024





30 Años REUNA

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