REUNA – SAACC 2021

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Agenda

- About REUNA
- Current infraestructure
- Synergies with astronomical community
- Future projects

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REUNA in numbers

42

Organizations in Chile are part of REUNA and we want to integrate the entire I + E ecosystem

+8.500Km

Network infraestructure

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+300.000

Nationally connected students and academics

+80%

Research in Chile is carried out by REUNA institutions

30 years

Driving Chile's digital development

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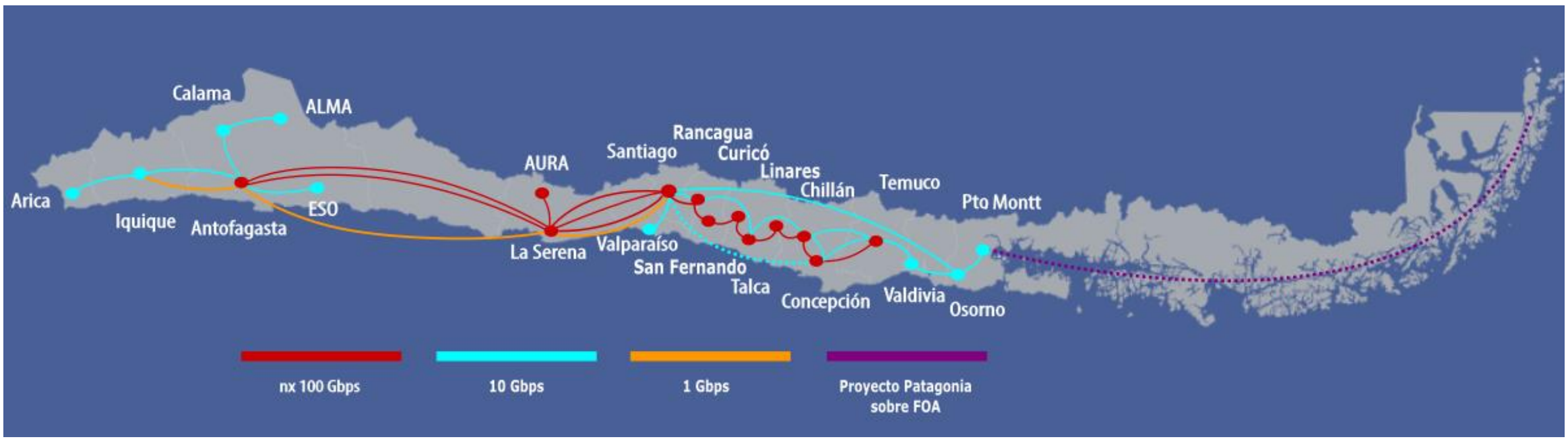
Current network infraestructure



17
Points of presence
located in the main cities

11
PoP's with 100G Capacity

100%
Backuped Backbone
Network Infrastructure

24x7
Operated in house

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A reliable and scalable northern backbone network

Arica – Iquique - Antofagasta

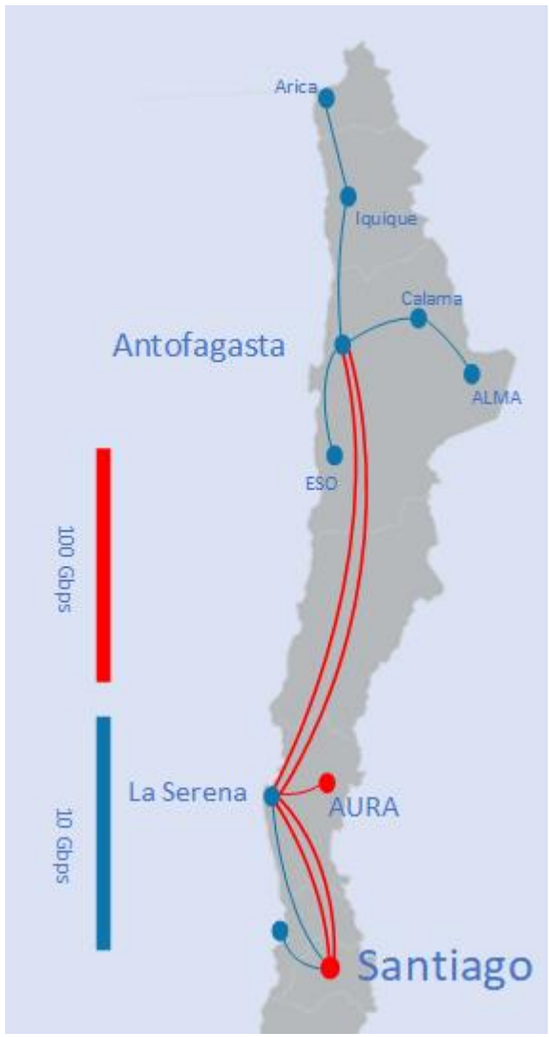
- 10G Protected (1+R)

Antofagasta – La Serena

- 2x100G Protected (1+R)
- Capacity to grow up to 6x100G

La Serena - Santiago

- DWDM backbone: 2x100G with capacity to grow up to 80x100G
- IP backbone: 100G



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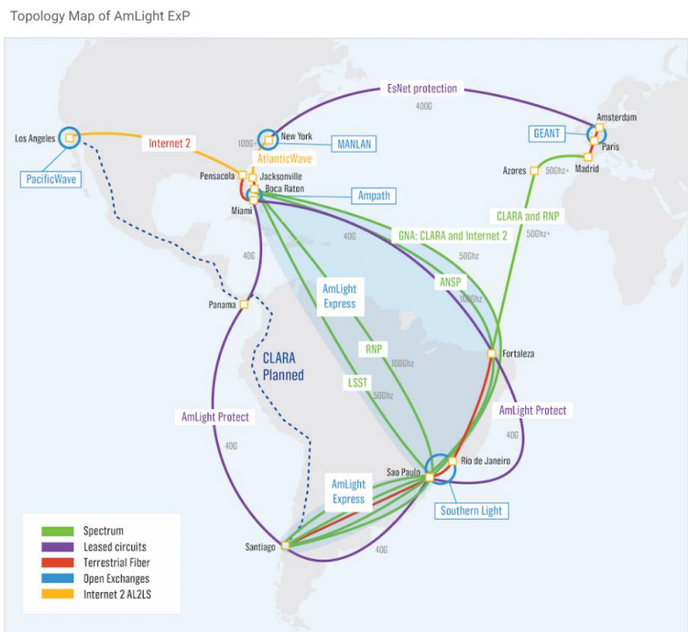
REUNA is partner with important international connectivity initiatives

RedCLARA

- International academic provider
- Public clouds connectivity (Google, AWS, MS)

BELLA

- Direct route for exchange traffic with Europe
- More bandwith, lower latency times



AmLight

- REUNA is partner for AmLight in Chile to provide international connectivity

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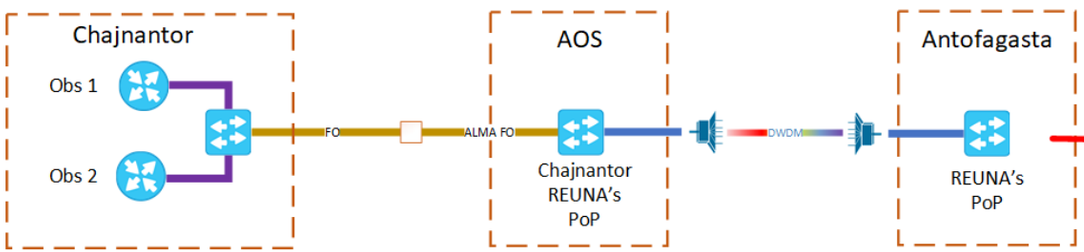
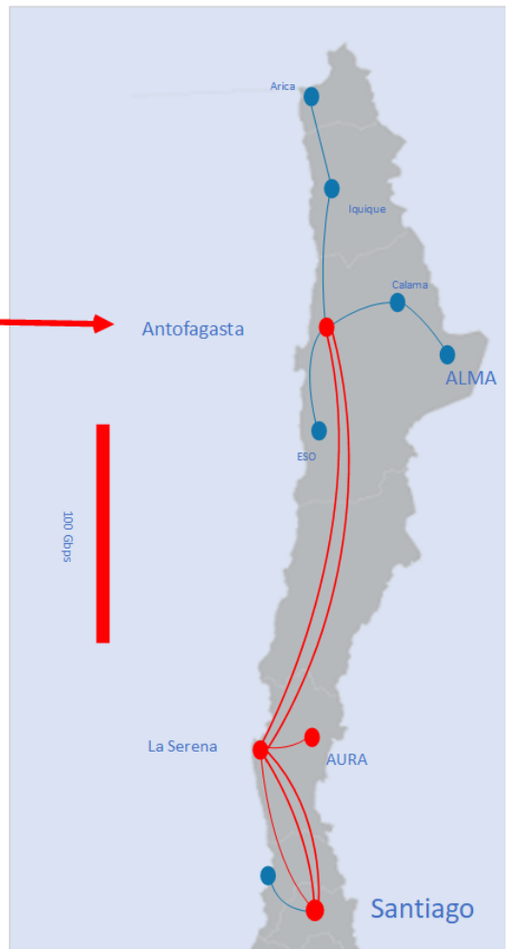
Building Chajnantor R+E PoP





- REUNA's PoP Will be able to provide connectivity to the observatories or projects located in Chajnantor Valley
- Agreement between ALMA and REUNA in final stage
- Agreement between PAA and REUNA signed
- Scalable bandwith over time
- Implementation date: end 2021

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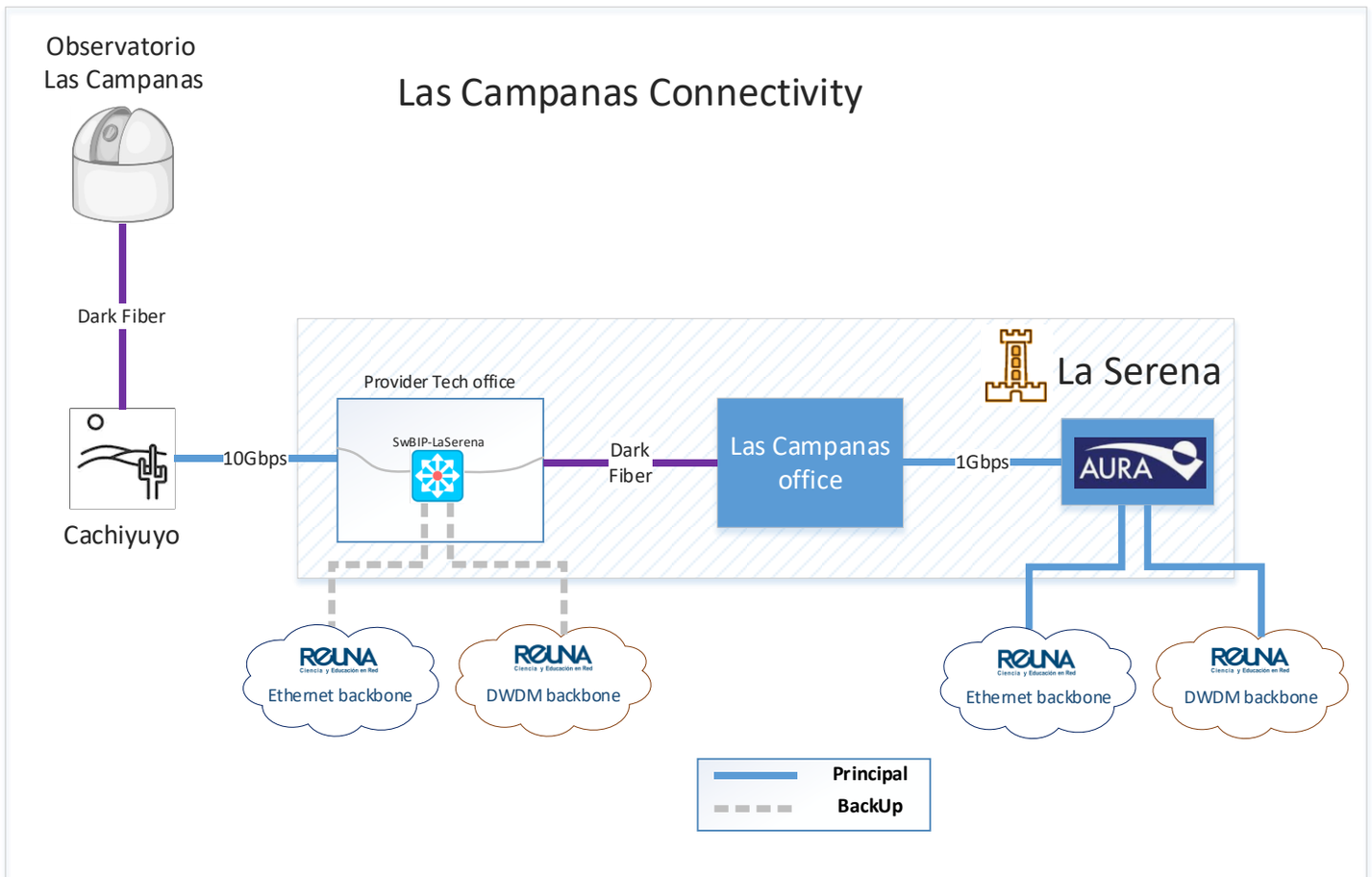
Las Campanas: Making synergies with the NREN infrastructure

Goal

- Provide an alternative exit to scientific data comming from the mountain using the existing infrastructure

Status

- To be implemented during April 2021



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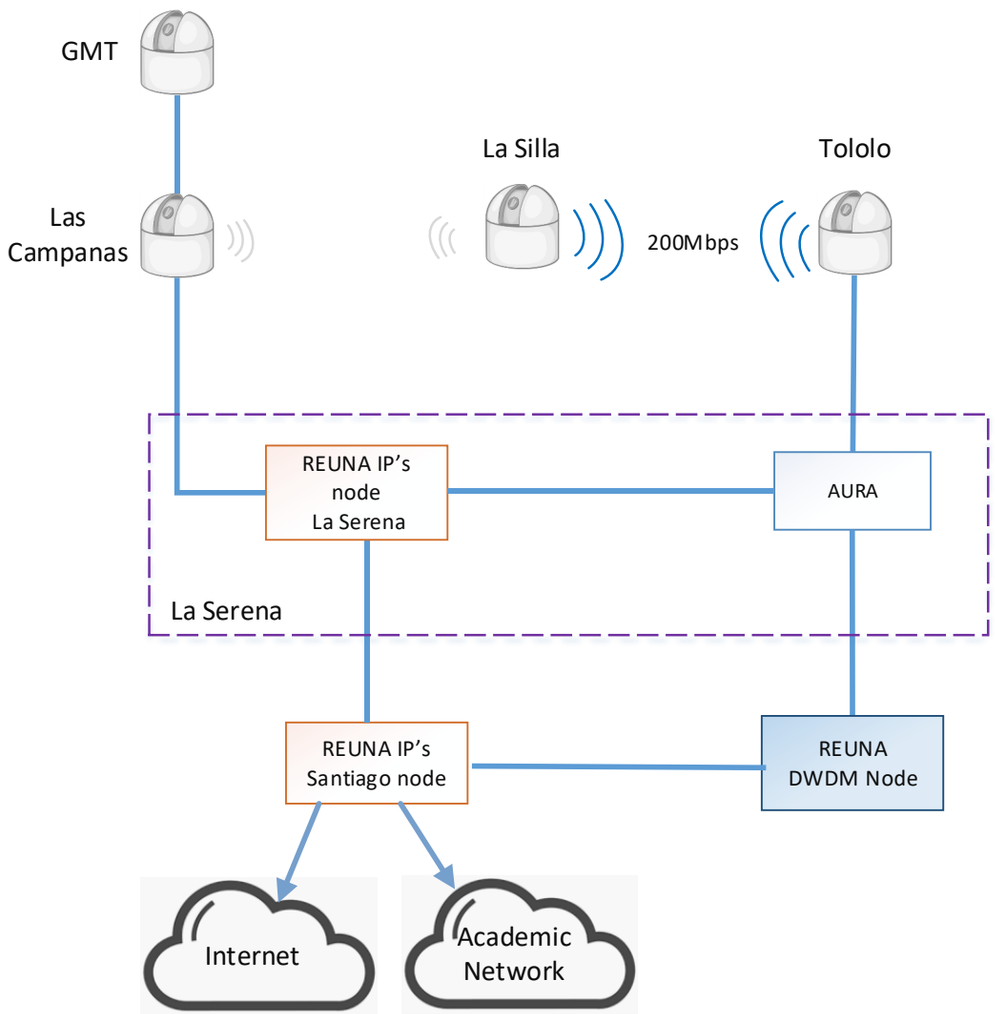
Building new paths in collaboration



LYRA Project

- Collaboration between the telescopes and REUNA to provide backup links using microwave links
- Agreements with the partners are under development
- Test link in place between La Silla and Tololo

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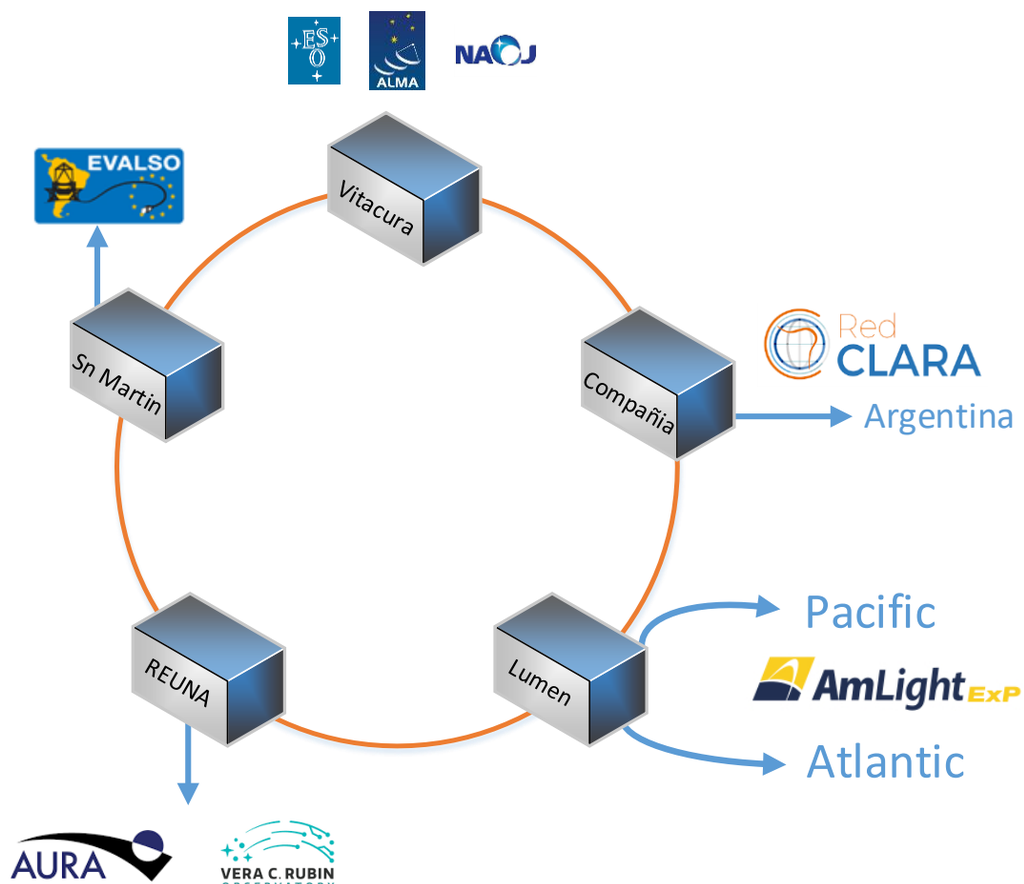
Increasing capacity in metropolitan ring

Current implementation

- Five nodes connected with fiber
- Infinera DWDM system implemented for automatic protection and scalability

Next step

- Ciena equipments will be implemented in Lumen, Compañía and REUNA using lambda alien
- This will allow to transport the traffic coming from Argentina for Vera Rubin and increase the capacity between REUNA - RedCLARA to 200Gbps



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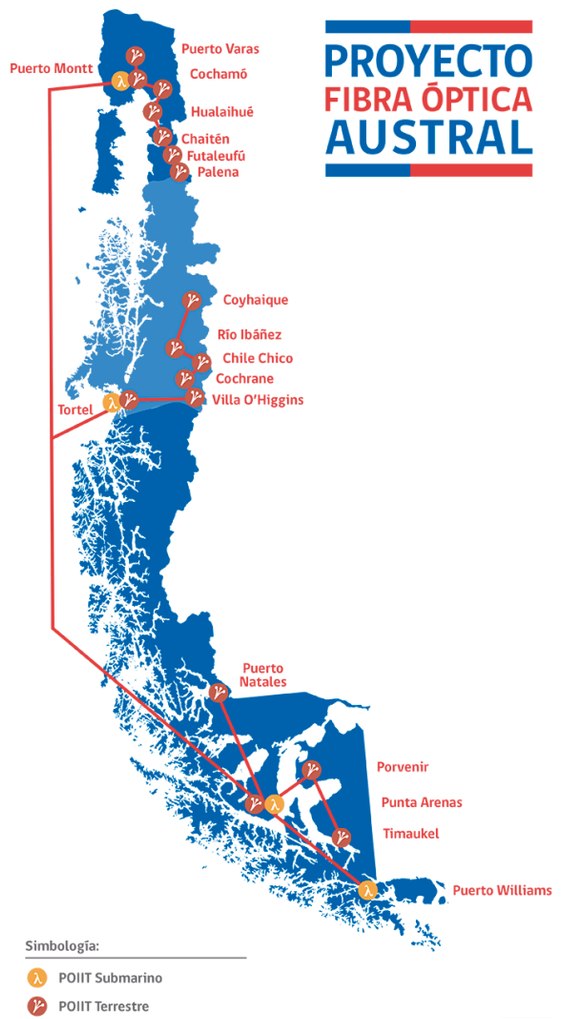
Extending NREN reach

Patagonia project over FOA (Fibra Óptica Austral)

- Join initiative between the Science Minister, ANID (National Agency of research and development) and REUNA
- Integrate efforts of different actors, to give viability and sustainability to the project.
- Build the “digital bridge” that unites all the R&E institutions of the Southern Macrozone of Chile with the country and the world, integrating them into the Global R&E Networks.



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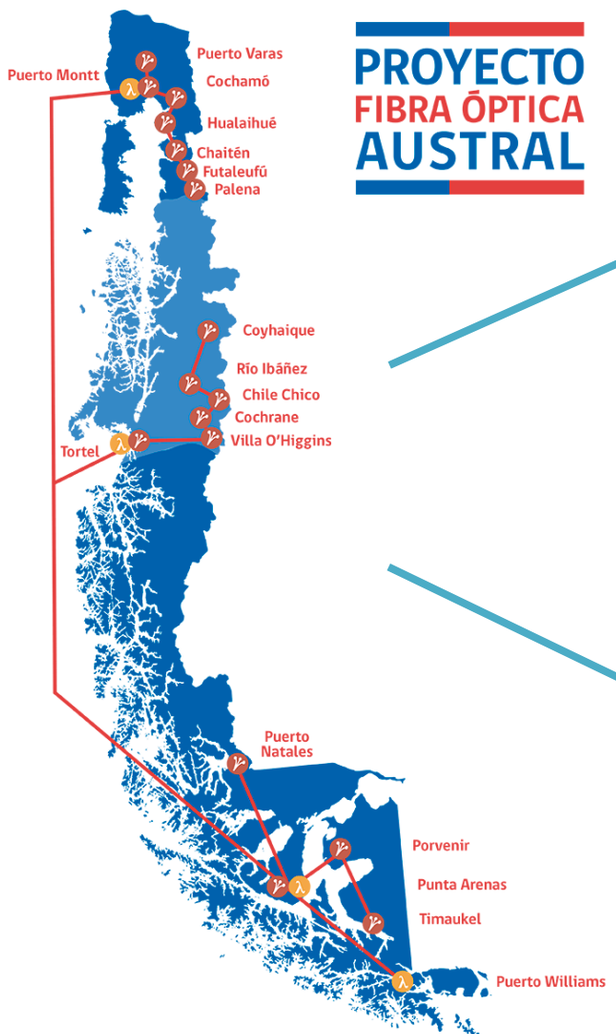
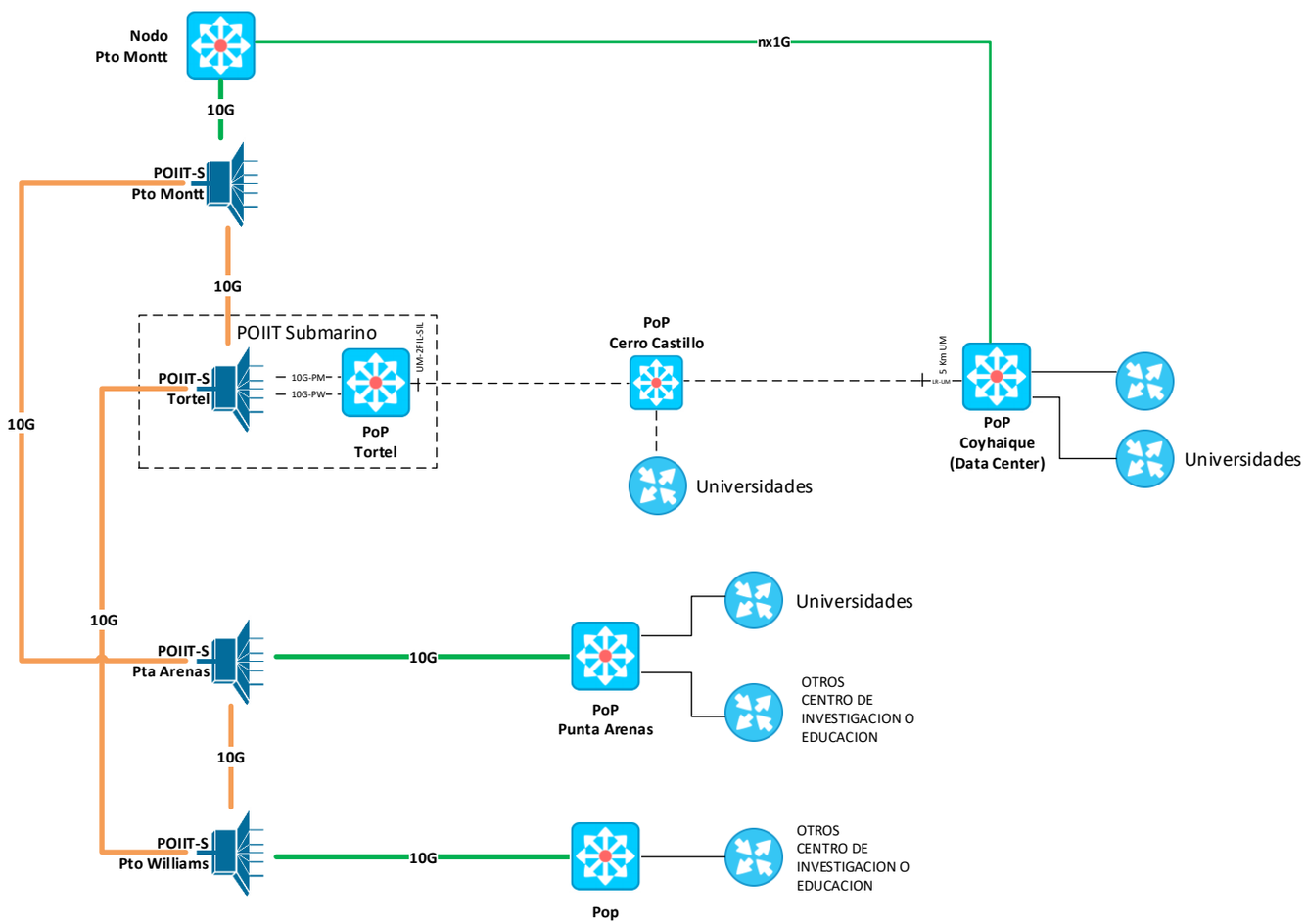
Patagonia: Preliminary network design



PROYECTO FIBRA ÓPTICA AUSTRAL



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Muchas gracias!

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