



Atacama Large Millimeter/submillimeter Array

ALMA AOS/OSF-SCO Communication Infrastructure – Status 2022

Update for the SA3CC meeting 2022

Christian Saldias / Nicolas Ovando

The Atacama Large Millimeter/submillimeter Array (ALMA), an international astronomy facility, is a partnership among Europe, North America and East Asia in cooperation with the Republic of Chile.

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Agenda

– ALMA Current Status

- ALMA Comms Infraestructure
- ALMA Current Status (2022)
- ALMA BW Upgrade (OTN/DWDM)

– ALMA Next Steps

- Upgrade DWDM Equipment

– CWG Status

- PoP REUNA @Chajnantor
- Observatories @Chajnantor (CCAT / TAO / APEX / etc.)

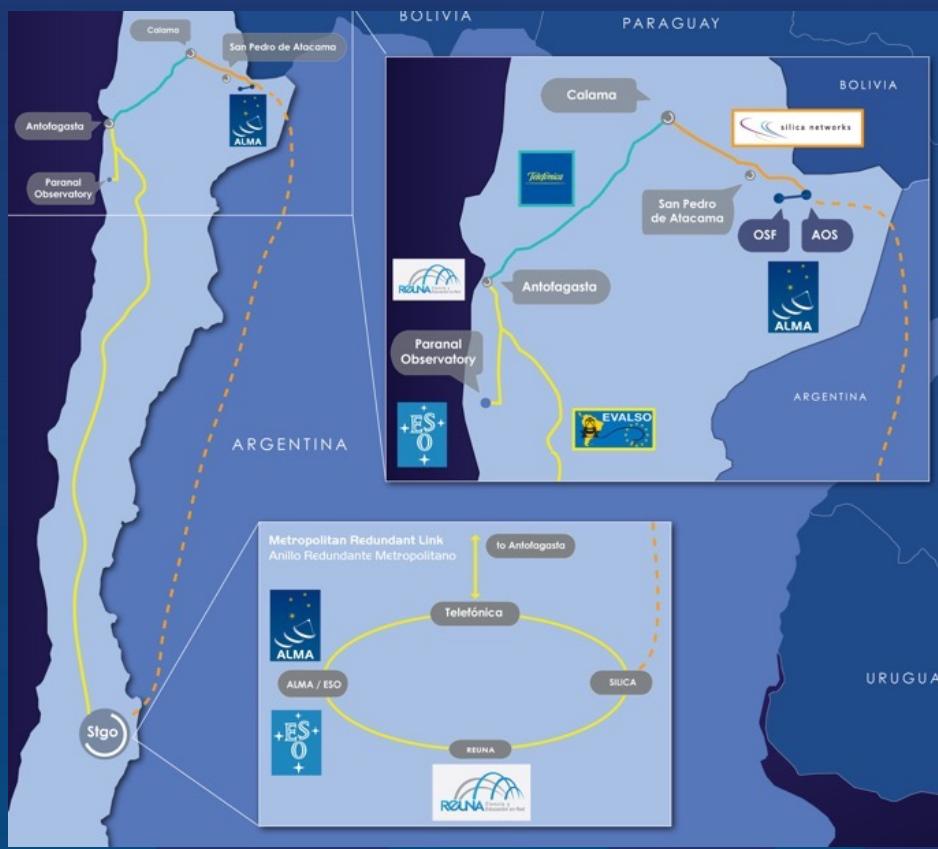
– ALMA Remote Operations – CRE @Santiago

– WSU Project (Evaluation)

– Q&A



ALMA Communication Infrastructure



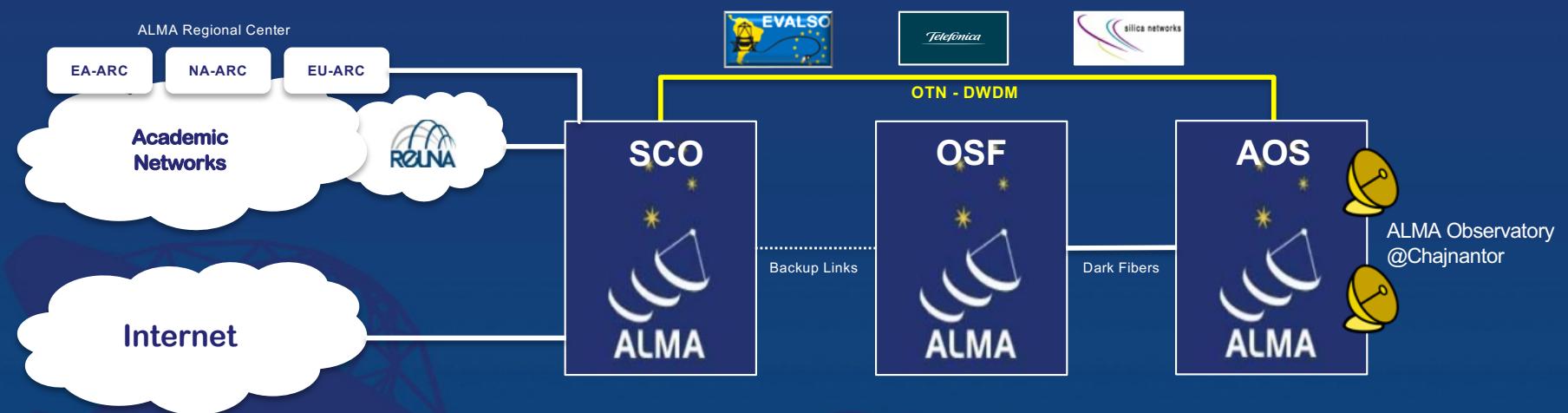
- A dark fiber pair between AOS and CALAMA (about 150km) ...
- A dedicated LAMBDA (OUT-2/10G) between CALAMA and the REUNA PoP in ANTOFAGASTA (about 200 km) ...
- A dedicated sub-LAMBDA between the REUNA PoP in ANTOFAGASTA and the SCO at the Vitacura Campus in Santiago (Evalso/ESO) ...
- REUNA as DWDM Admin for ALMA ...

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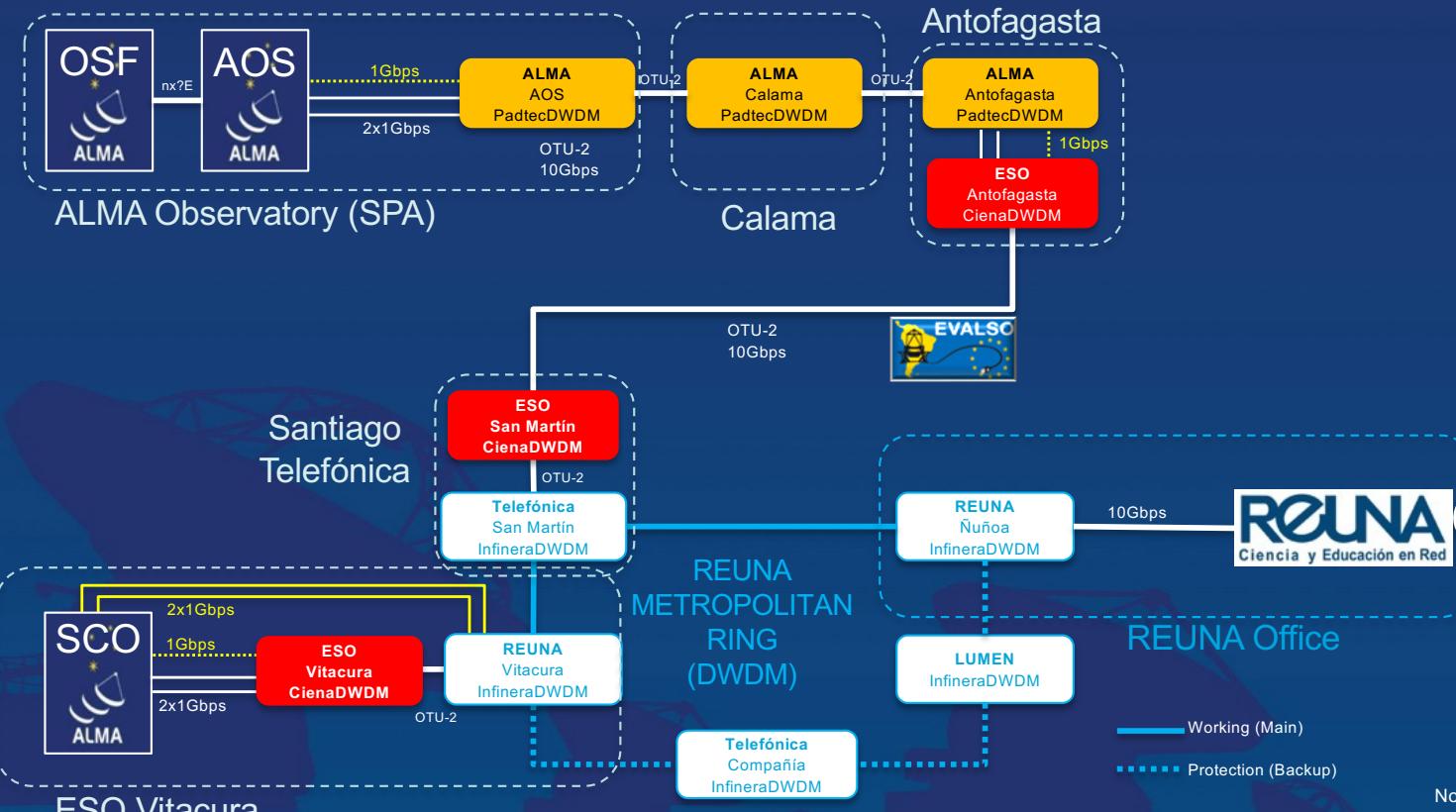
ALMA Current Status (2022)



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ALMA BW Upgrade (OTN)



Notes:
OTU-2 = 4xOTU-1 = 10G = 8x1Gbps

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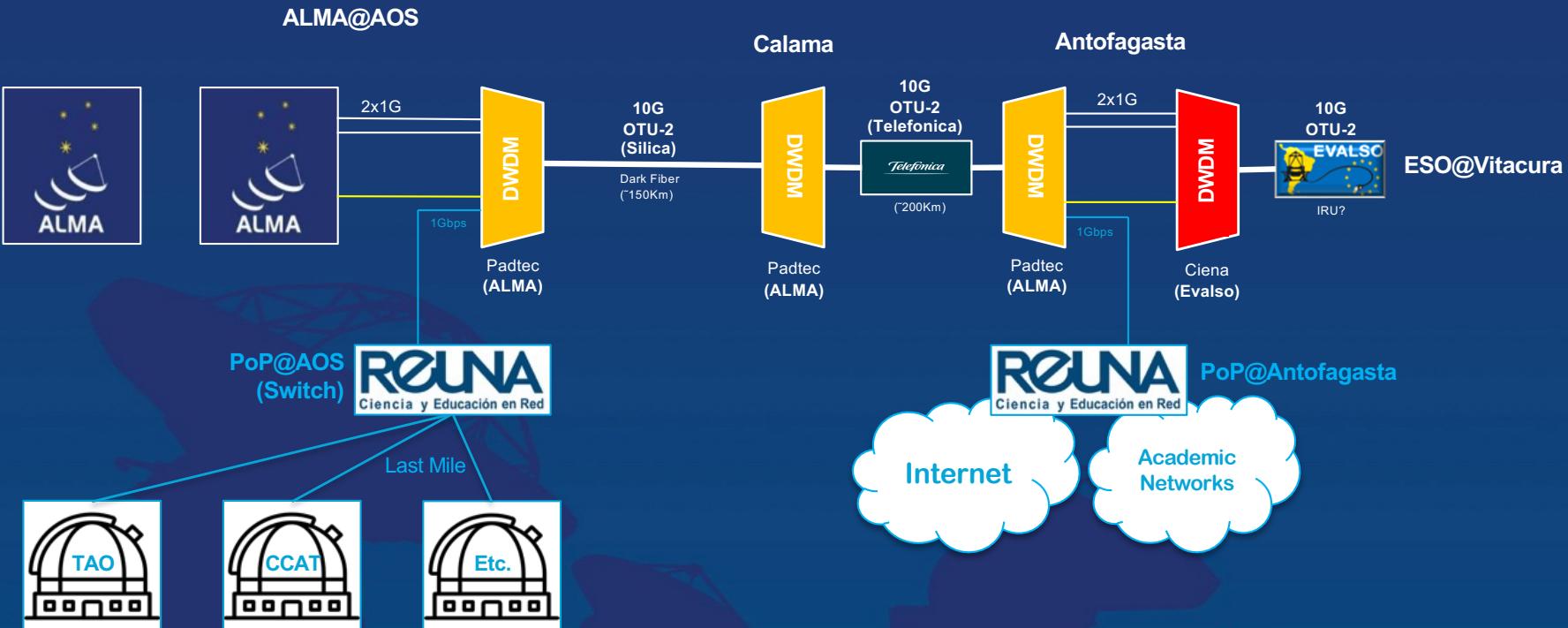
Next Steps

We are working in:

- Upgrade ALMA BW (1Gbps aditional for ALMA) ... In progress
- Evaluation change of the DWDM Equipment (Padtec/Ciena ALMA/ESO) ...
- We are evaluating the possible alternatives for an upgrade of the BW between AOS - Santiago (n x OTU-n, more capacity).
- Upgrade of the BW between ALMA and REUNA in Santiago (connectivity to Academic Network and other).



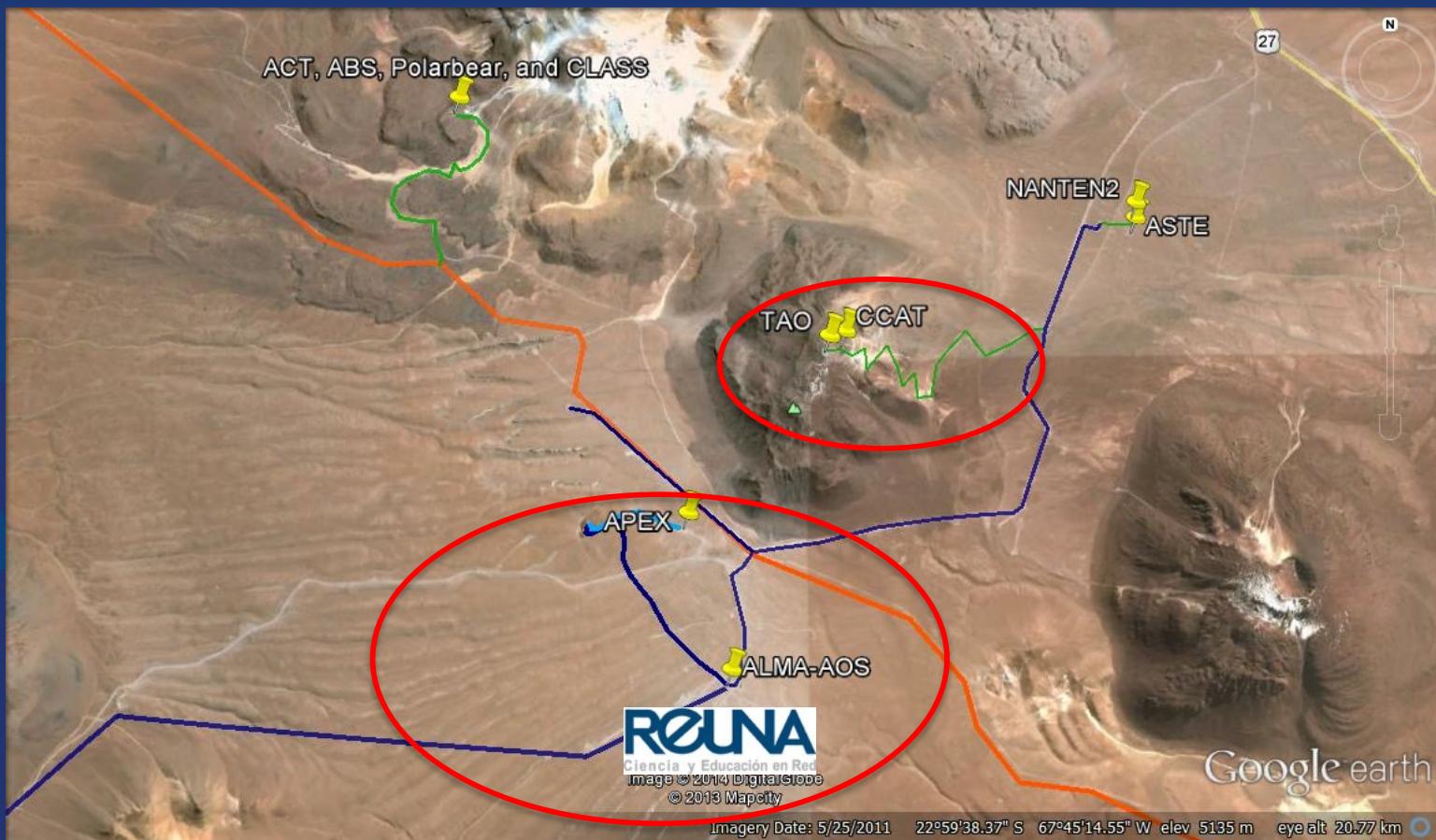
REUNA PoP @Chajnantor – Phase1



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Connections in Progress in the Chajnantor Plateau ...





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ALMA Remote Operations

- ALMA Control Room Extension (CRE) or Remote Operations of the Observatory Control Room



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WSU Project (Evaluation)

- New OSF-AOS FO Cable for “Wideband Sensitivity Upgrade” (WSU): Evaluation Project for the Installation of a new “Fiber Optic cable” (48 fibers or +) for direct communications between the antennas and a new “Correlator in OSF-TF.





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Thank very much for your attention!!!

Q&A

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