



# ALMA OSF-SCO Optical Infrastructure

Update for the 3<sup>rd</sup> SAACC meeting 3013-03-25

G.Filippi (ALMA/JAO)

*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.*



# Background

ALMA OSF-SCO currently uses a 100Mbps Microwave (MW) link. The projected needs for full array operations is 300Mbps. Some recent developments may even move upward such value.

Need for a communication infrastructure between the ALMA Observatory site near San Pedro de Atacama and the JAO offices in Santiago capable of:

- Providing a long term (>15 years) solution infrastructure
- Coping with projected operations needs (>1Gbps) and scale further
- Minimize latency between the end sites
- Being available as soon as the array is completed (end 2013)
- Having reasonable upfront CAPEX and very low future OPEX
- If cost effective, taking advantage of the existing EVALSO capacity



# OSF-ANTOFAGASTA Optical Path: Project Timeline

- ✓ Feasibility study completed (2011)
- ✓ Project Plan completed (March 2012)
- ✓ ALMA Board approved the recommendation (Apr 2012)
- ✓ Invitation for Bid launched (May 08)
- ✓ Offers received (mid-July)
- ✓ Contract with Silica and Telefónica signed on November 2012

Start of construction work April 2013

Delivery expected for end of 2013



# OSF-ANTOFAGASTA Optical Path: Updated Path (AOS)



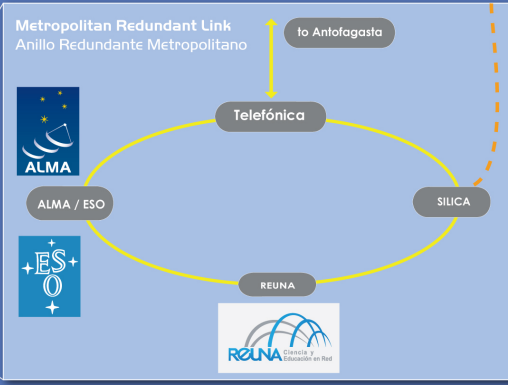
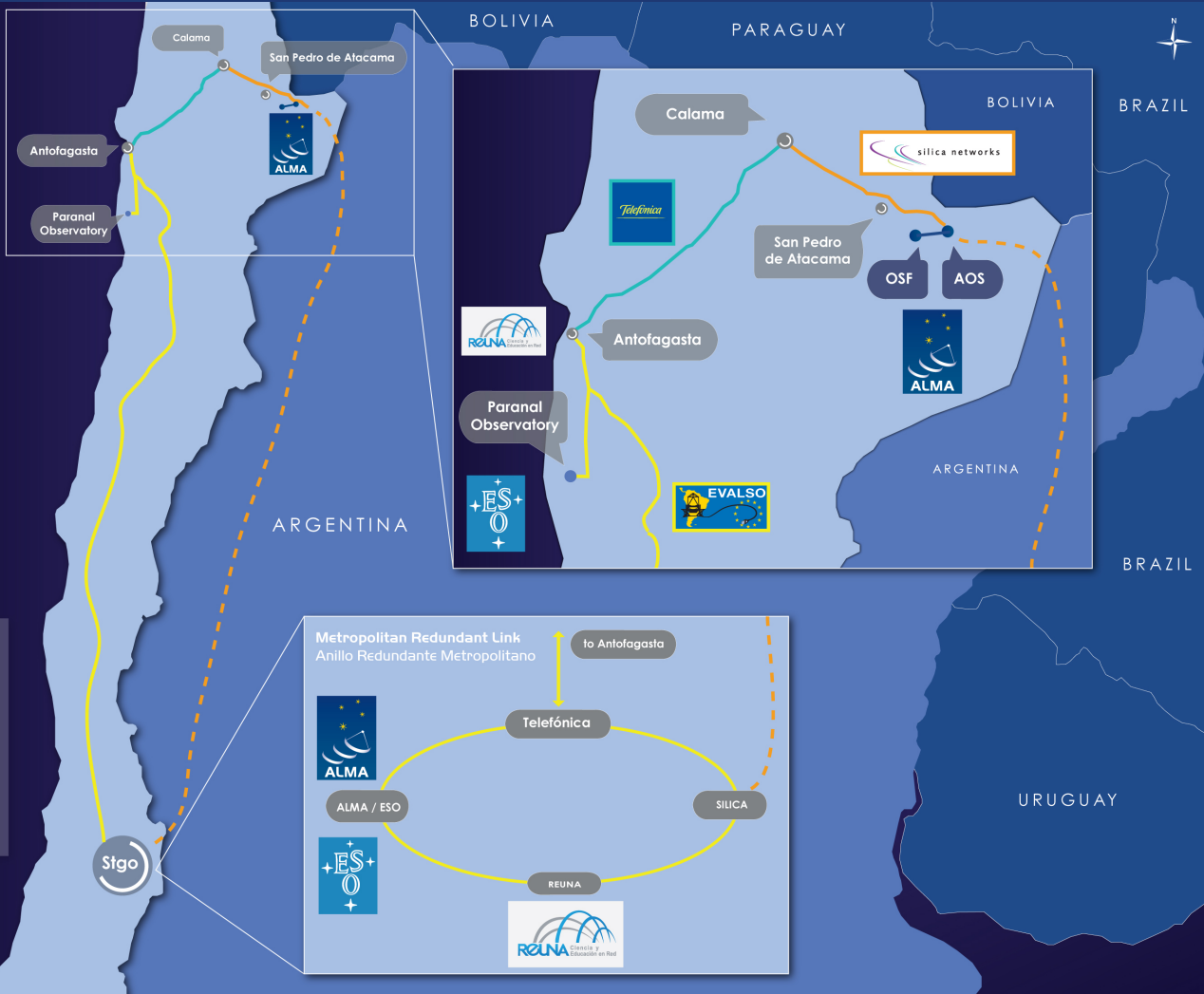


# OSF-ANTOFAGASTA Optical Path: future redundancy

**ALMA Optical Path**  
Camino Red Óptica de ALMA

PACIFIC OCEAN  
OCÉANO PACÍFICO

- KEYS**  
SIMBOLOGÍA
- Academic network (existing)  
*Red académica (existente)*
  - Commercial network (existing)  
*Red comercial (existente)*
  - New network segment (in construction)  
*Nuevo Tramo de Red (en construcción)*
  - Redundant link via Argentina (planned)  
*Conexión de Respaldo vía Argentina (planeado)*





**Many thanks for your attention, and for any questions feel free to contact me.**

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