



# EVALSO

## Communication Infrastructure

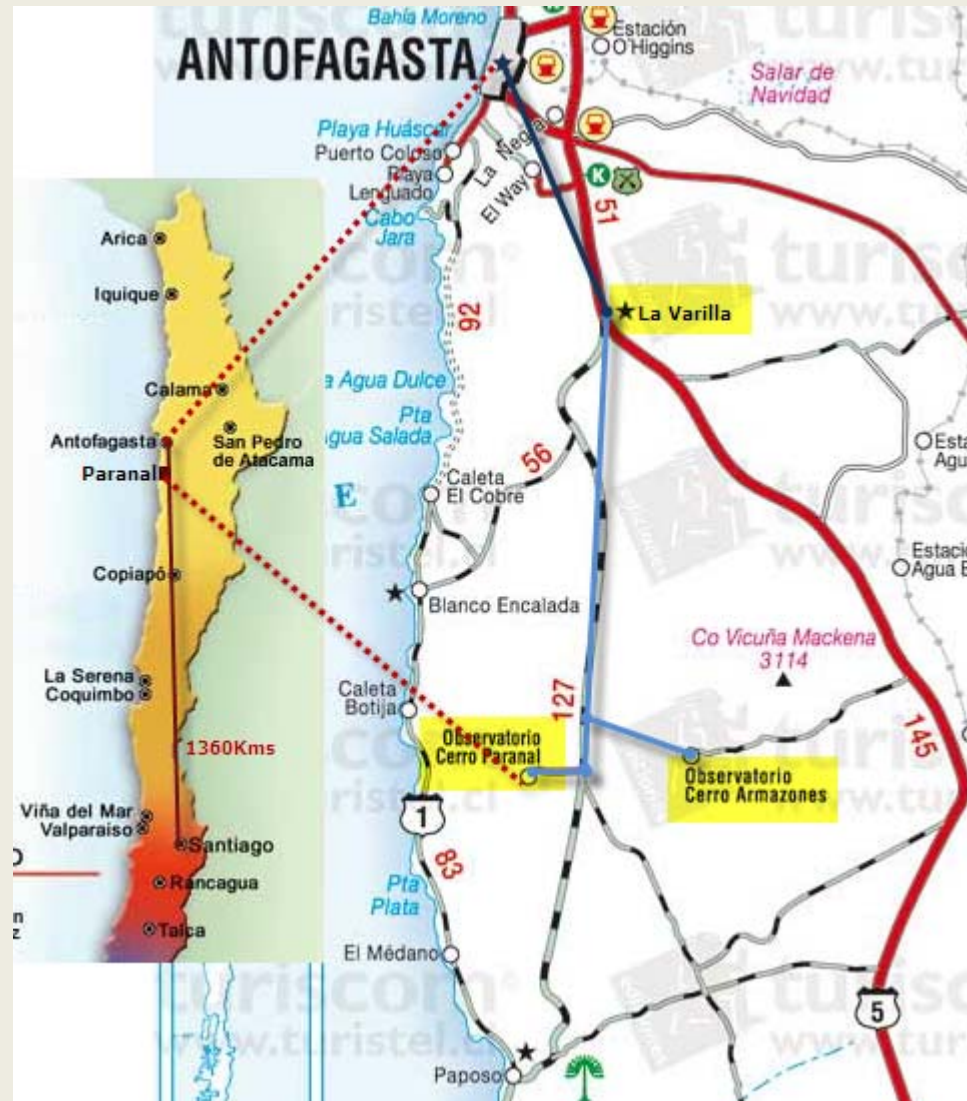
(SA1 - LINK UPGRADE)

G.Filippi (ESO)  
S.Jaque (REUNA)



# EVALSO Communication Infrastructure

## Localization





# EVALSO Communication Infrastructure

## The Atacama desert and the Observatories





# EVALSO Communication Infrastructure Overall layout and plan

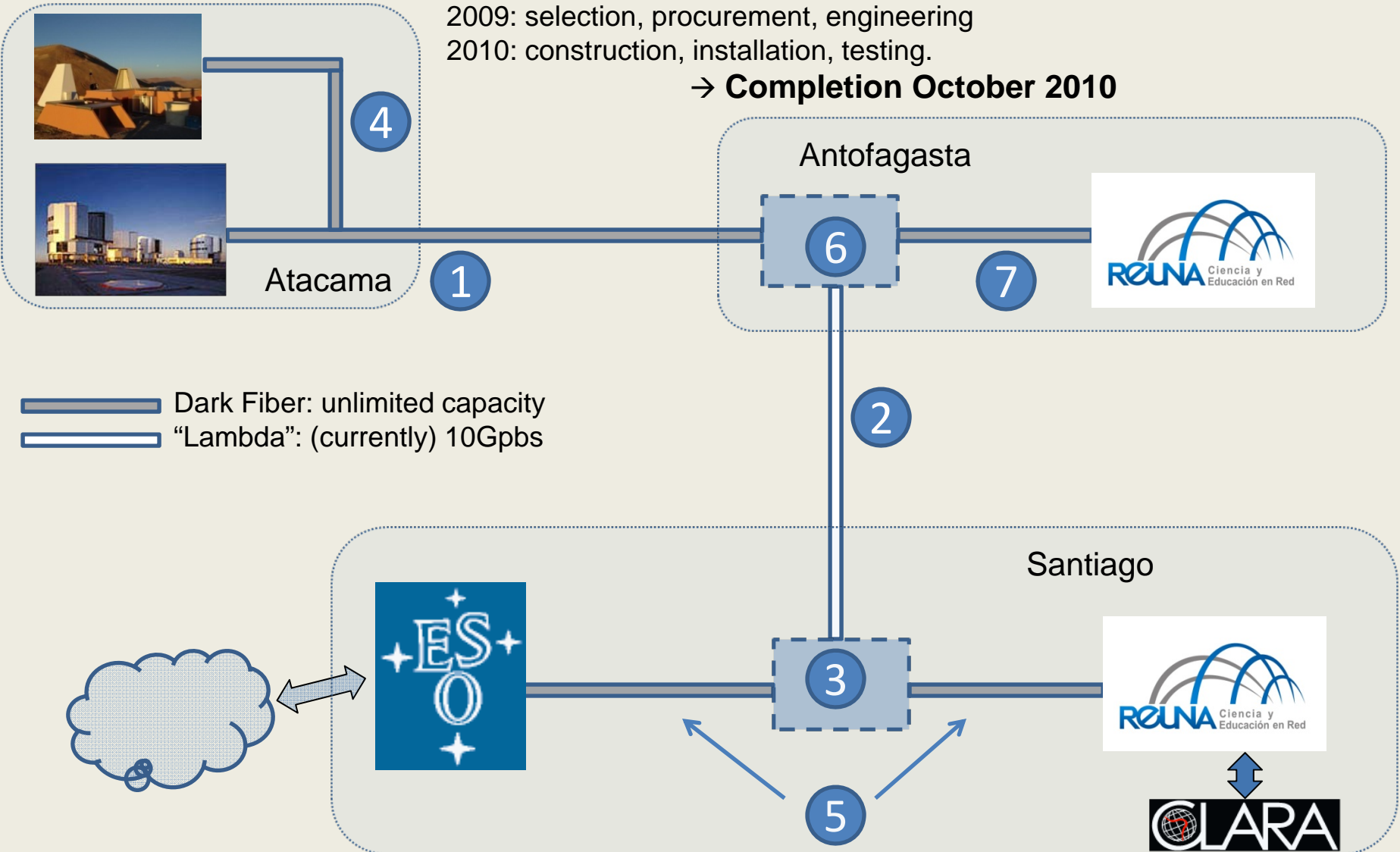


2008: marker survey

2009: selection, procurement, engineering

2010: construction, installation, testing.

→ **Completion October 2010**

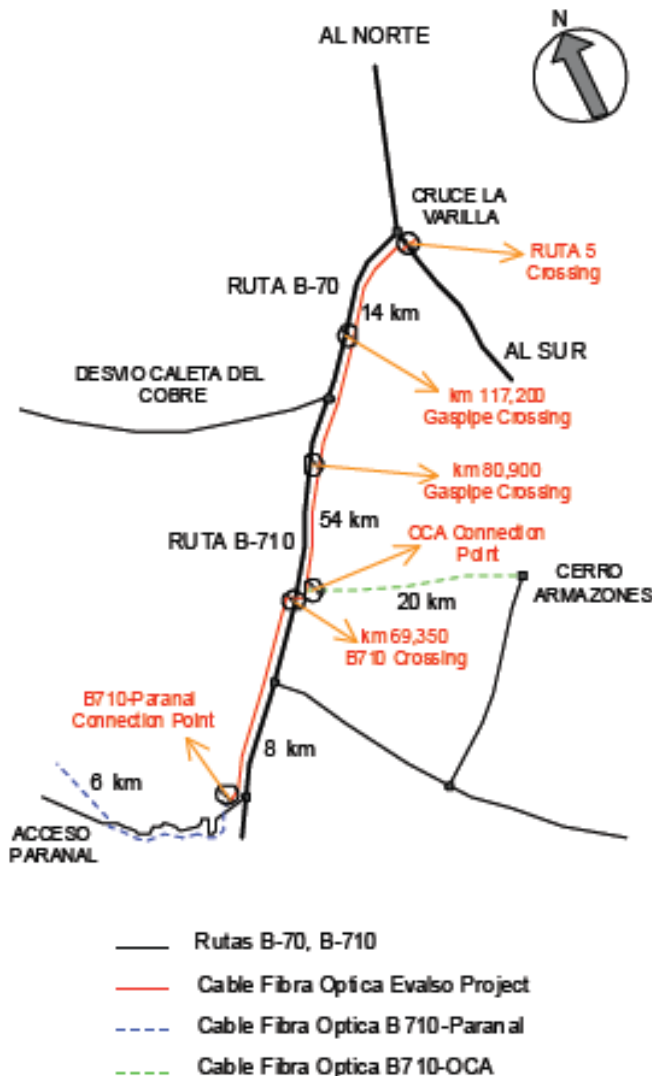




# EVALSO Communication Infrastructure



## Fiber cable specification and layout



Segment 1 (ESO Paranal to “La Varilla” cross road (B-710/Ruta5):

Segment 1a: new 12-core fiber cable for direct installation underground

Type of fiber: ITU G652.D

Length: 75 Kms

Attenuation: 18,5dB @ 1550nm

Chromatic Dispersion: ps/nm 1258

Segment 1b: one fiber pair from existing aerial cable (TELEFONICA)

Type of fiber: ITU G652.D

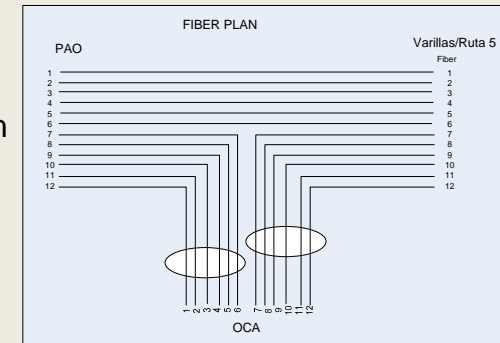
Length: 50 Kms

Attenuation: 11,5dB @ 1550nm

Chromatic Dispersion:

Total Length: 125Kms

Total Attenuation: 30dB @ 1550nm



Segment 4: (Cerro Armazones Observatory to ESO Paranal)

Type of fiber: ITU G652.D

Length: 30Km (20 new cable, same as for 1a +10 from Segment 1a)

Attenuation: 9dB @ 1550nm



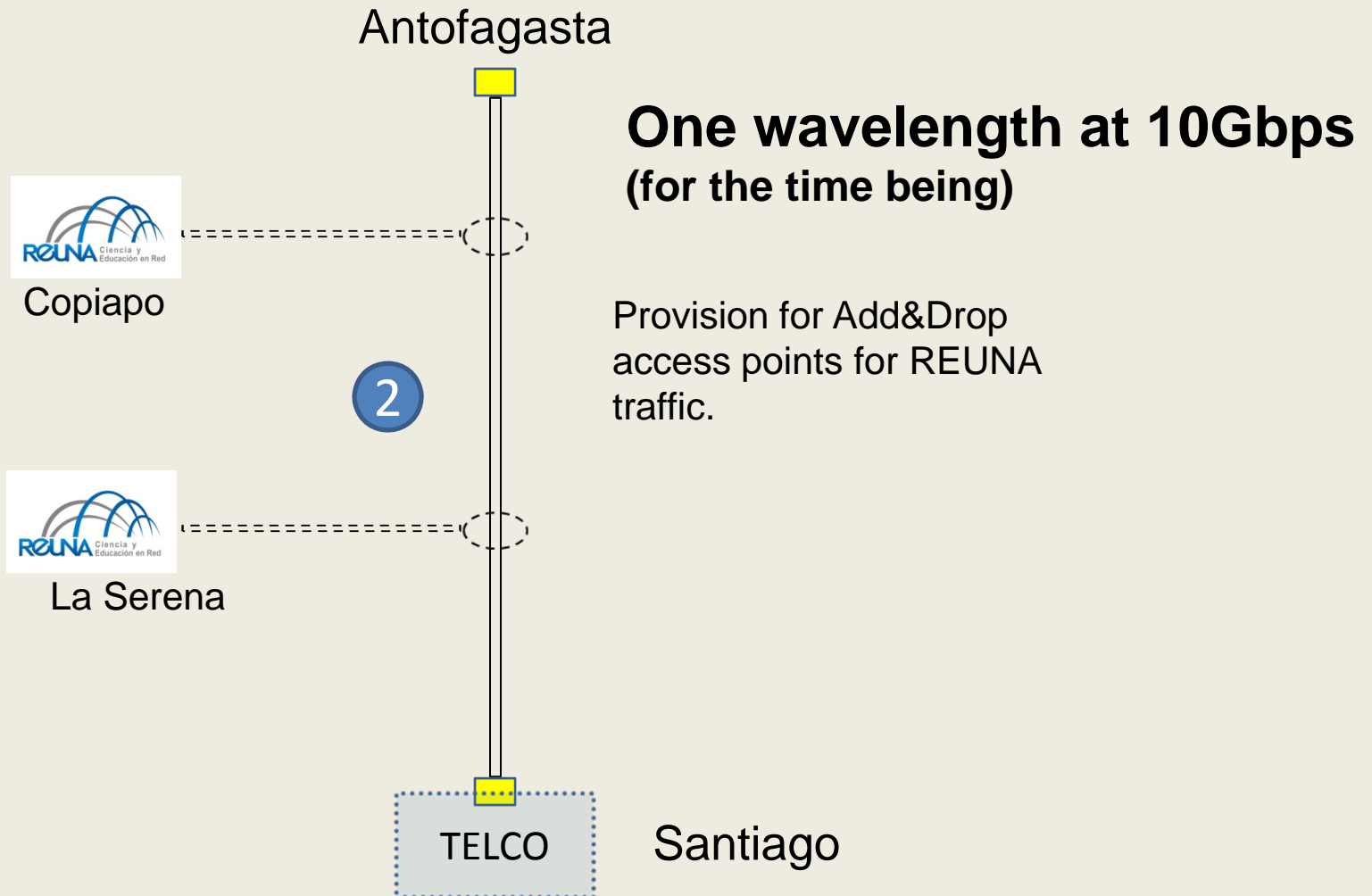
## EVALSO Communication Infrastructure

### Construction of the new fibers





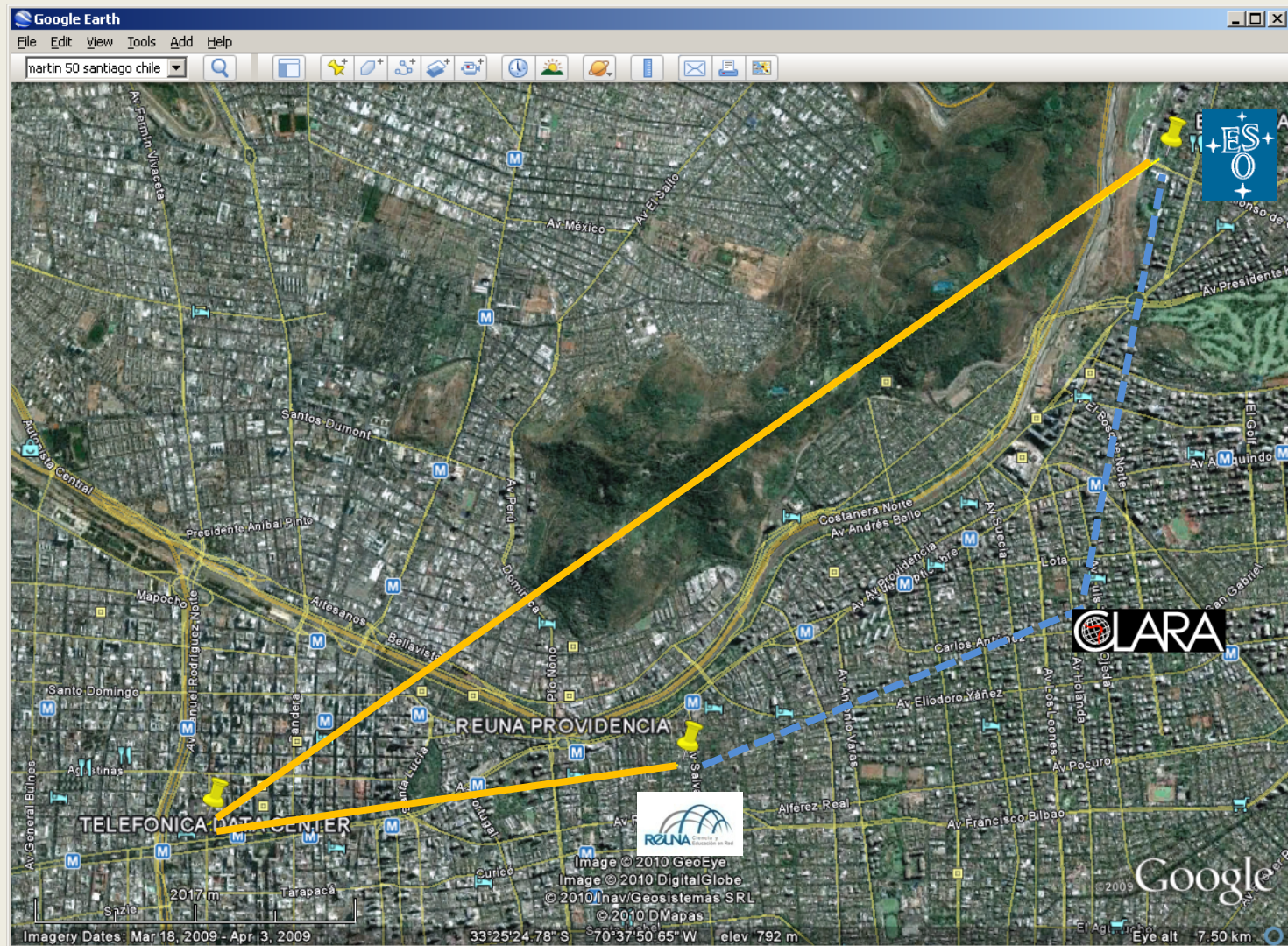
## EVALSO Communication Infrastructure Synergies: REUNA connections in La Serena and Copiapo







# EVALSO Communication Infrastructure Santiago: connections to ESO and REUNA and planned ring with CLARA

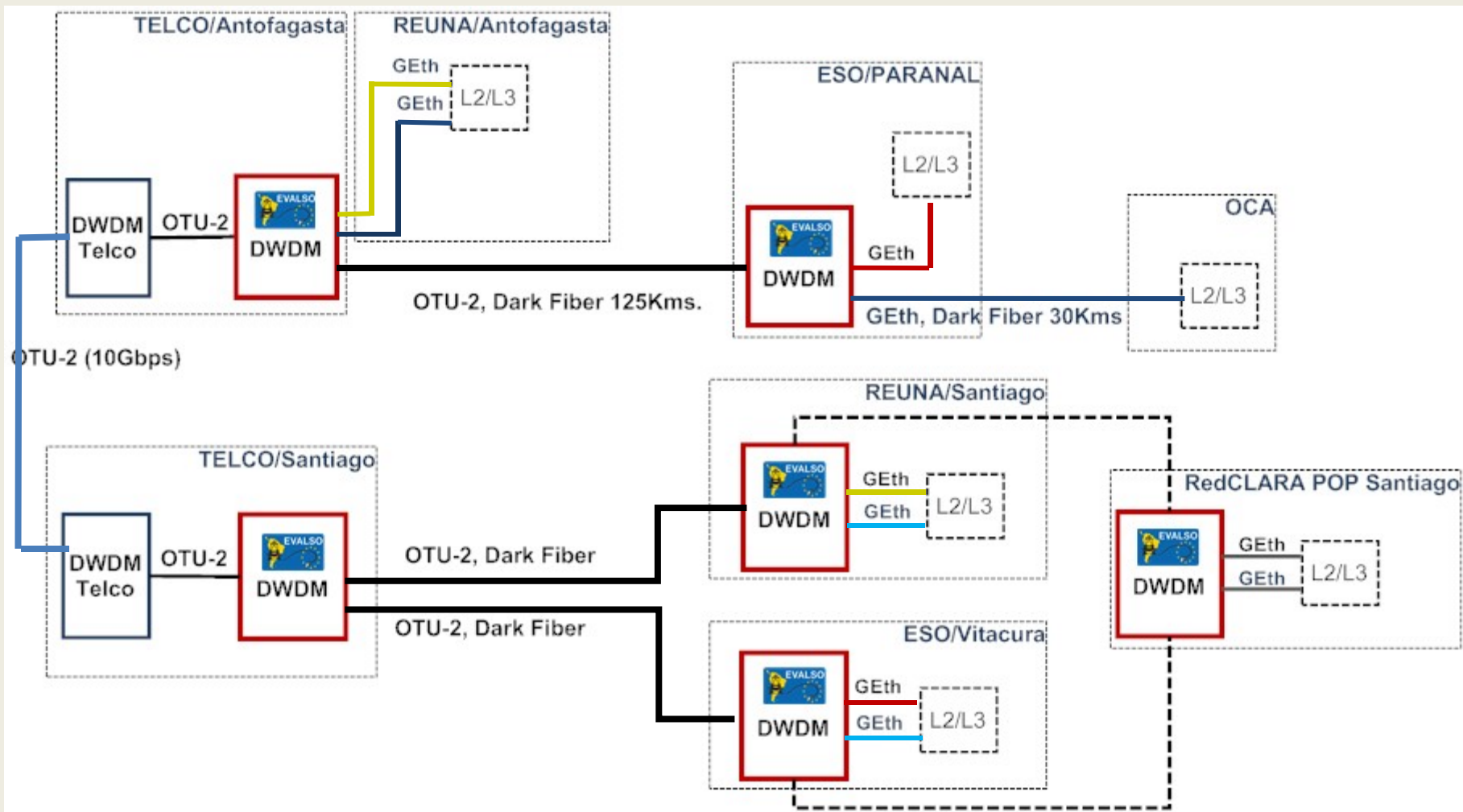






# EVALSO Communication Infrastructure

## Equipment Specification and Layout





### CIENA CN 4200 family

- 5 slot chassis
- Power Unit and Fan redundant
- Service Card
  - M3 : 3x1GEth
  - F10A: 1xOTU-2, 2x1GEth

Filters (MUX/DEMUX) slot



4 Service  
Card slots

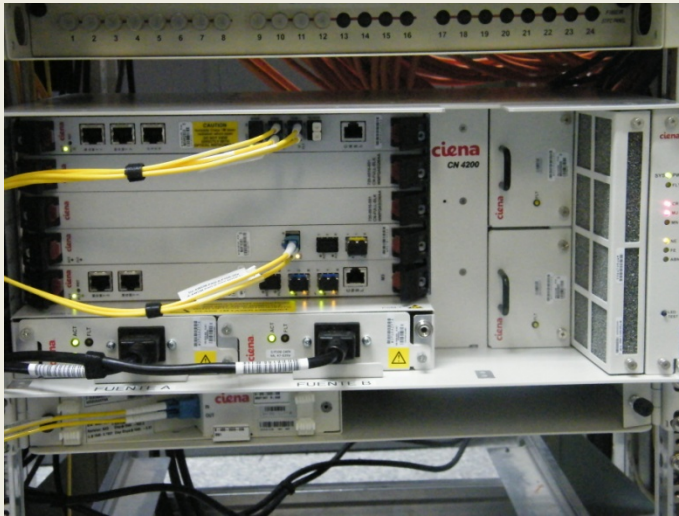
Power Modules

Fan



# EVALSO Communication Infrastructure

## Equipment in the service points

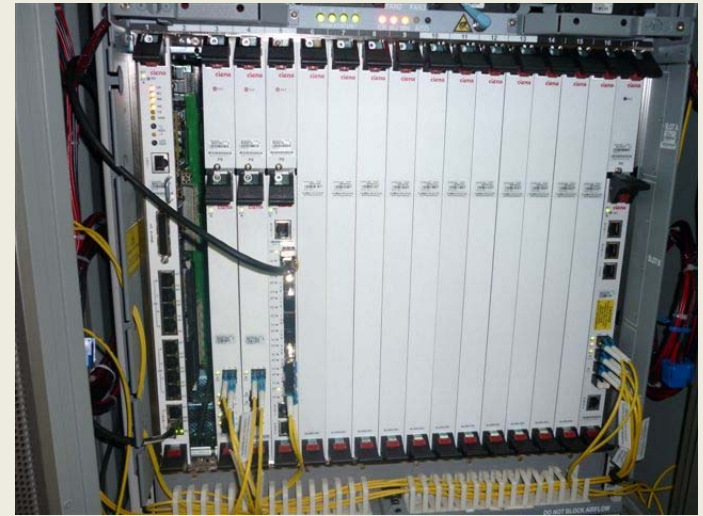


PARANAL

REUNA/Santiago

ESO/Vitacura

RedCLARA



REUNA/Antofagasta

Nodo en Telco Santiago



**EVALSO**  
**Communication Infrastructure**  
**CREDITS**



**AXYS**

**TELEFONICA**

**ADEXUS - CIENA**





# EVALSO 2010...

## ... we are there!!!!

