

ALMA Observatory

ATACAMA Wüste Chile



Munich, 16.10.2012



The Project



Customer: ESO, European Organisation for Astronomical Research in the Southern Hemisphere

Operations Support Facility (OSF) at 2900 m

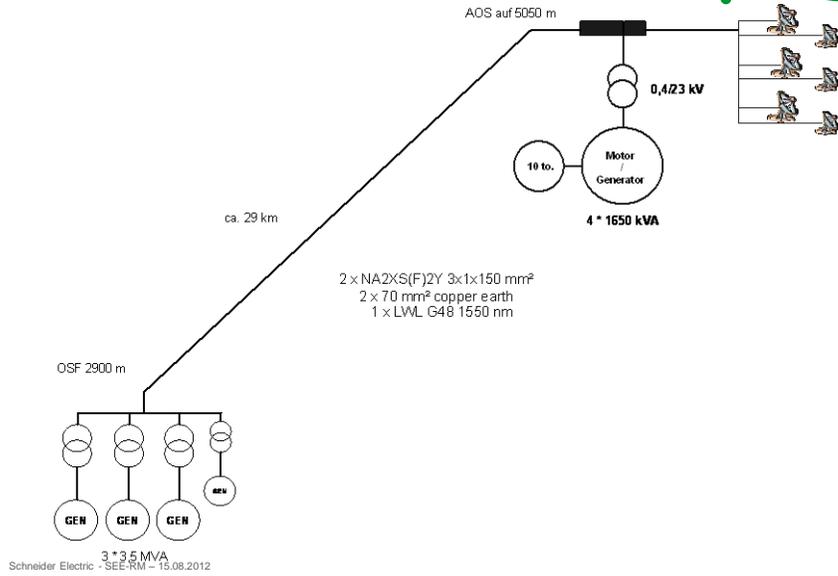
Array Operations Site (AOS) at 5000 m



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The Scope



The Scope,



Internationales Procurement Shopping List



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Foundations



10	16.0	1.50	16.50	2.501	26.253			
10	16.0	1.25	12.50	1.991	19.608			
12	16.0	6.30	75.20	9.526	110.556			
8	16.0	6.30	52.00	10.270	62.190			
12	16.0	2.00	324.00	0.966	322.332			
113	16.0	2.00	228.26	3.192	360.651			
120	12.0	0.47	79.92	0.417	73.351			
120	12.0	0.62	74.40	0.551	66.267			
			Total		1670.991			

$\phi 12 \Rightarrow \text{min. } l_a = 65\text{cm}$
 $\phi 14 \Rightarrow \text{min. } l_a = 75\text{cm}$
 $\phi 16 \Rightarrow \text{min. } l_a = 116\text{cm}$

ALUSA 50 años
 INGENIERIA

Transportation Logistic and Shipping

Altogether 43 Containers



Flywheels and stationcontainers on
its way to AOS



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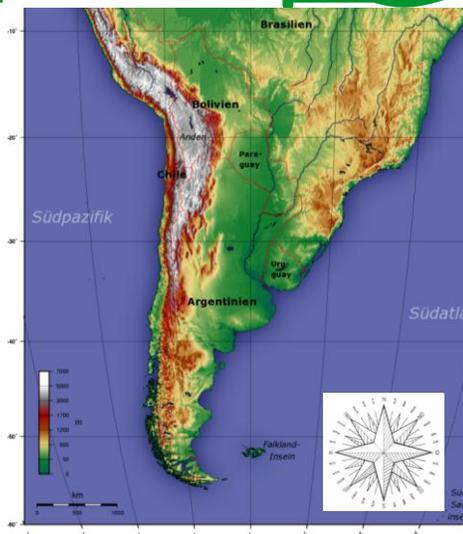
ATACAMA Desert, Phenomenon El Niño..



The Atacama desert is located in the rain shadow of the Andes Mountains.

Eastwinds do not bring any falls of rain.

Due to the climate phenomenon El Niño every 6 to 10 years heavy rainfalls accure.



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ATACAMA Desert,
the impacts..



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ATACAMA Desert,
die Wüste lebt ...



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Make the most of your energy



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ALMA
Atacama Large Millimeter Array



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**Pressure ratio,
5000m**



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