Raúl Kulichevsky
Deputy Technical and Administrative Director
Comision Nacional de Actividades Espaciales

CONAE's Main Activities

SATELLITES

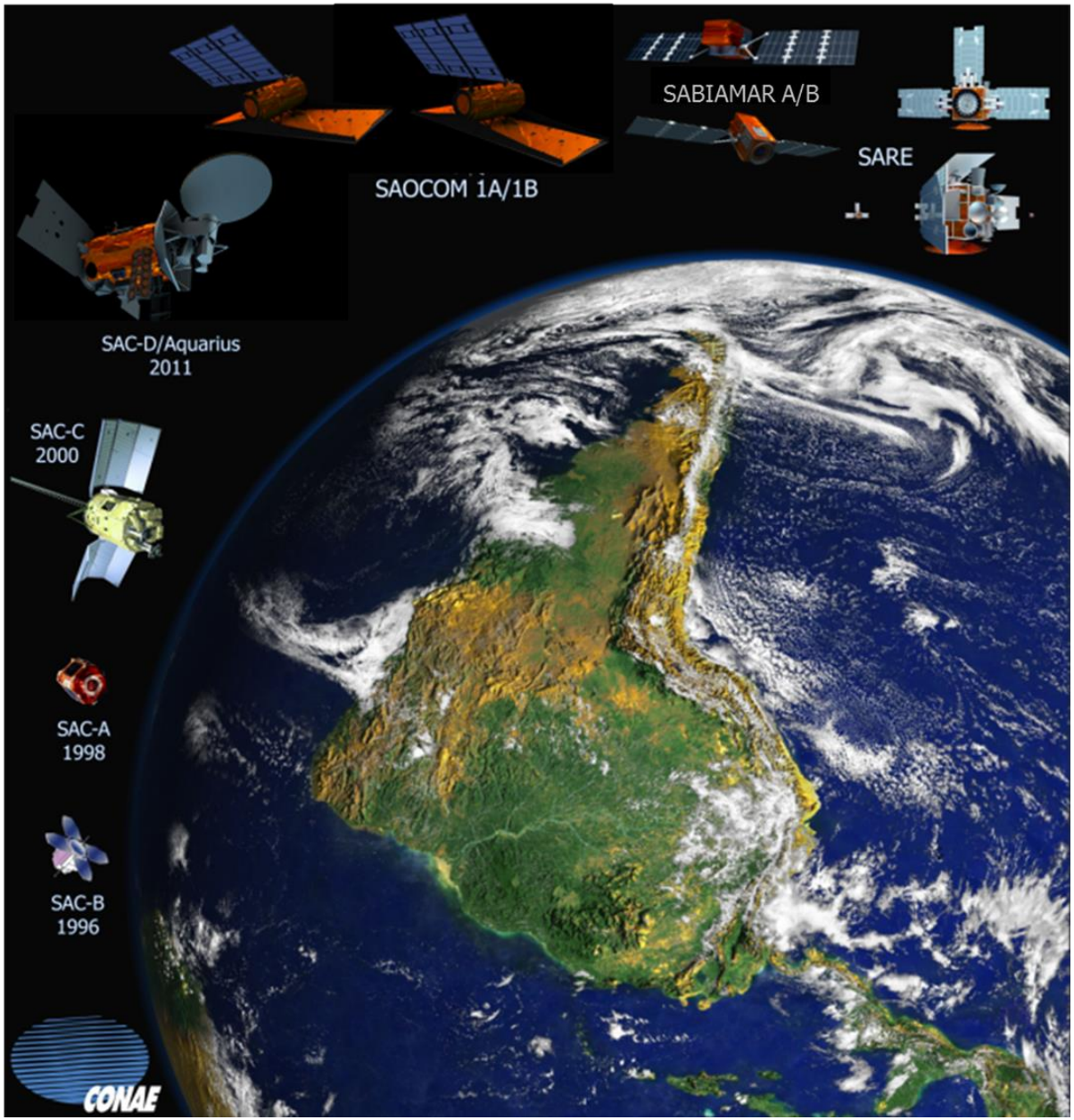
LAUNCH VEHICLES

EDUCATION

GROUND STATIONS

PROCESS & DISTRIBUTION OF SPACE BASED INFORMATION

CONAE in Space



The Argentine Space Program

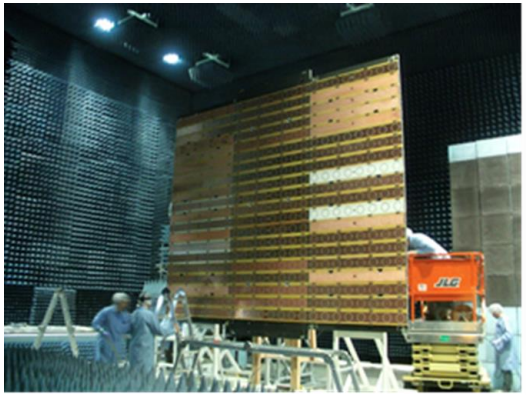
- ***"Go to space to know Earth better"***
- ***"An opportunity for the national technology development"***

The National Space Program

Information cycles for:

- ***agriculture, fishing and forest activities***
- ***climate, hydrology and oceanography***
- ***monitoring of the environment and natural resources***
- ***cartography, geology and mining production***
- ***disaster management***
- ***health applications***
- ***national security***

T. Tabanera Space Center



Ensayo motor 10 toneladas - 2015

Capacity Building: Gulich Institute

- **Master in Space Aplications for Emergencies Management**
- **Master in Satellite Technology**
- **Master in Satellite Instruments**

Education & Training: 2Mp Program

Educational Program for children: building capacity for the future

- Development of teaching material
- Development of special software
- Teachers training courses
- Special events at schools

Tierra del Fuego Ground Station

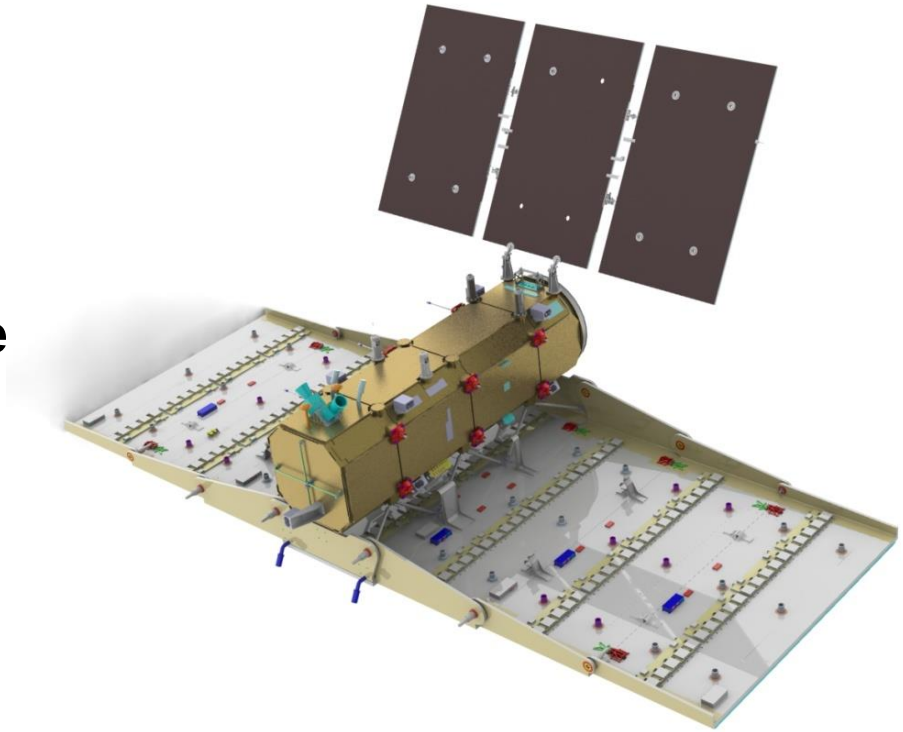
SAOCOM Mission

CONFIGURATION:

- Two Satellites with an L-Band SAR Instrument
- Orbit : 619.6 km
- Near Polar Sun-synchronous frozen orbit, 06:00 am ascending node

DIMENSIONS:

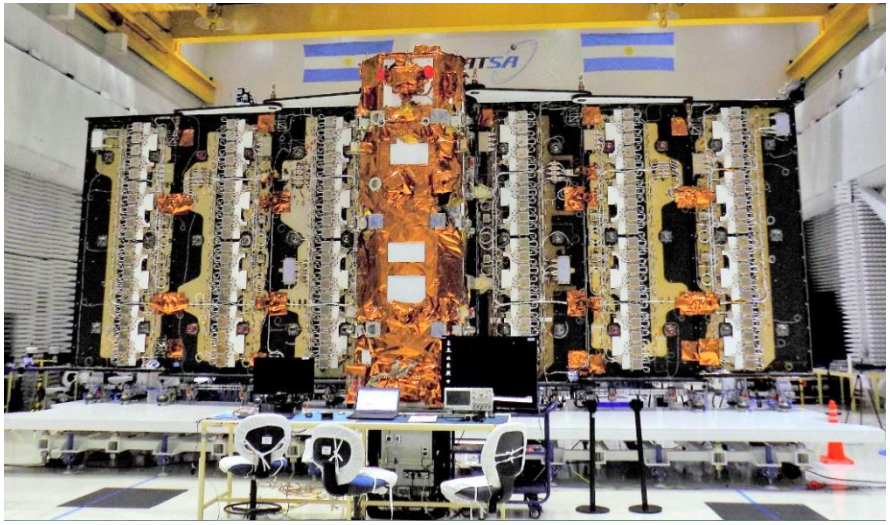
- h = 4.468 m Φ 2.965 m stowed envelope
- 10 m x 3.5 m SAR Active Phase Array antenna
- 15 m^2 foldable solar array

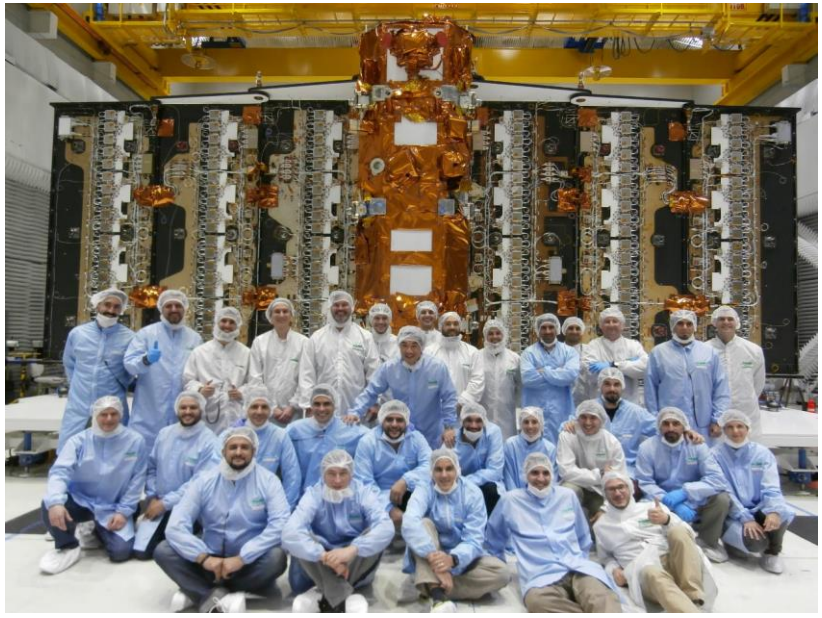


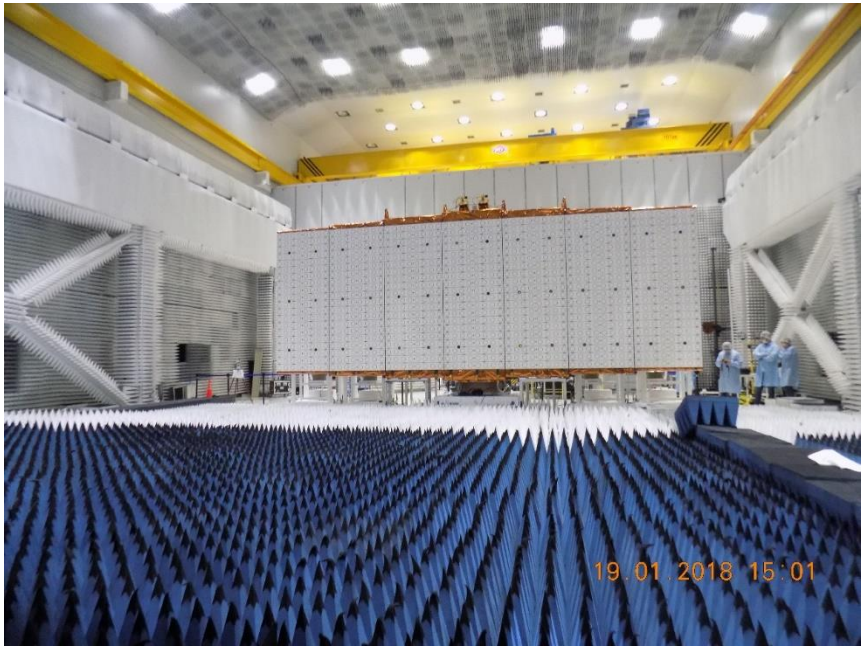
MASS BUDGET:

- 3100 kg

SAOCOM 1A







ASI & CONAE

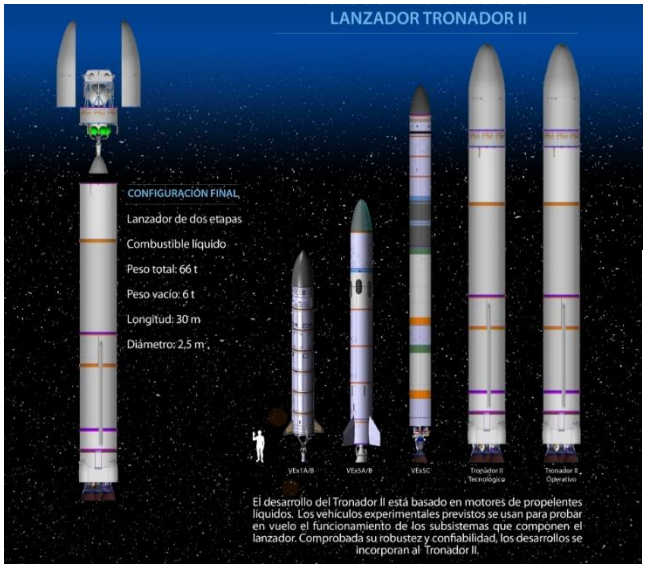
Constelation of 6 satellites with SAR instruments on board, 4 X band (COSMO-SkyMed) and 2 in L band (SAOCOM):

- **X + L Bands synergy**
- **High revisit time**

Benefits:

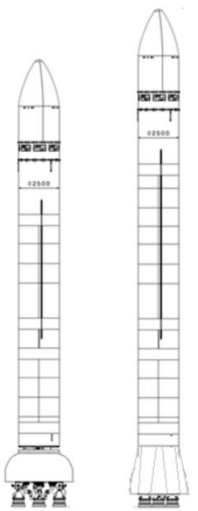
- **Synergy between X and L band data, which represents a key for satisfying the different user needs**
- **Significant improvement in the accuracy of the discrimination among the different surface components**
- **Significant improvement in the geophysical parameters quantitative knowledge**
- **Very high revisit for monitoring events of fast evolution**
- **Improvement in cartographic and change detection studies**

Tronador II/III Launch Vehicles



Parámetros derivados de los L2A	TII	TIII
Inf: Masa al despegue	~ 67 Ton	~ 89 Ton
Inf: Empuje al despegue	~ 93 Ton	~ 124 Ton
Req: Masa de propelentes E1 / E2	57320 kg / 3920kg	76426kg / 5227kg
Req: Masa seca sin carga útil E1 / E2:	4460kg / 640kg	4970kg / 705kg
Req: Carga útil a LEO (ascenso directo)	250kg@600km	750kg@600km
Goal: Con segunda ignición en E2:	NO	1000kg@600km
Inf: Altura & Diámetro Central:	~28m & 2.5m (est)	~31m & 2.5m (est)
Req: Isp E1 (@45kPa) / E2 (vac):	265s / 300s	272s / 315s
Inf: Tiempo de quema medio E1 (máx E1) / E2	154s (200s) / 417s	154s (208s) / 556s

- Seleccionamos trayectorias de ascenso directo para poder seguirlas desde el lanzamiento hasta la inyección con estaciones ubicadas en territorio nacional.
- Así, para el TII se pueden satelizar también 350kg a 400km o 165kg a 700km.
- La capacidad de reencendido mejora la carga a satelizar, aunque demora la inyección que debería seguirse desde estaciones remotas. Esta estrategia se considera para el TIII. El reencendido implica 6 segundos de quema para el caso una órbita de 600km.
- En ambos casos también se puede inyectar en órbitas elípticas.



Thank you very much!