



# EDISOFT

DEFENCE & AEROSPACE TECHNOLOGIES

Santa Maria, June.18

A THALES Group Company

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**Teleport**  
Santa Maria

Building the access to Space through the Azores

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# Our perspective about the Space in the 80's



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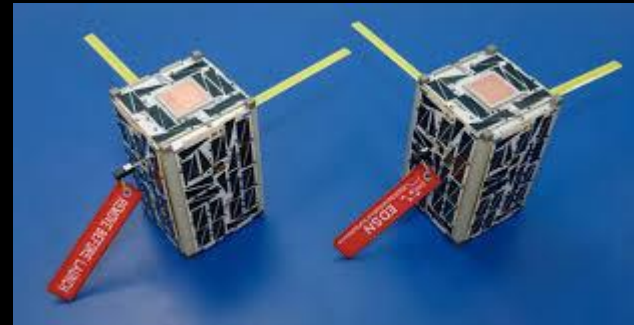
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# Old space | New space



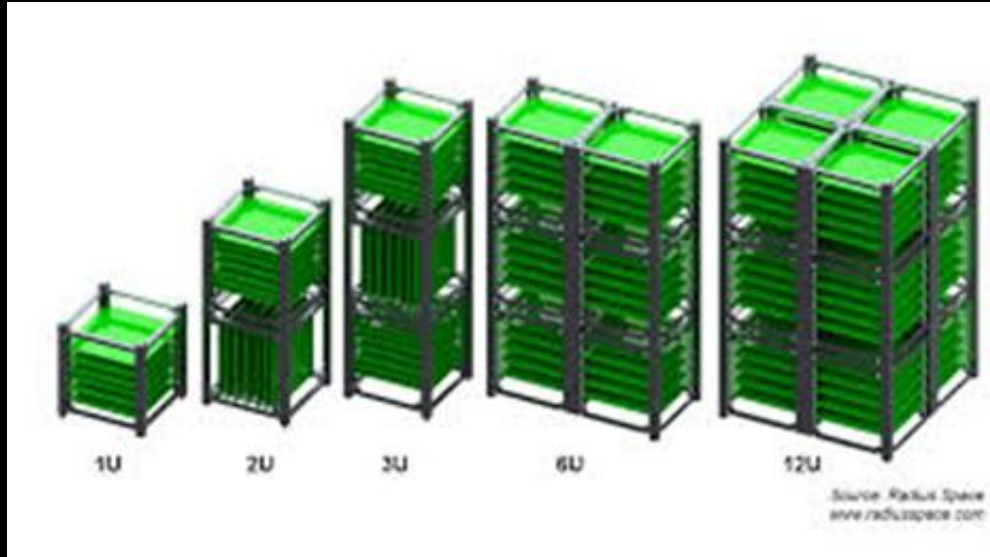
Long production cycle



Mass production

# Old space | New space

## SAT Constellations - Global Coverage at Low Cost



# Old space | New space

## Access to Space (Low Cost) – new SpacePorts



# Today's reality

- **New Services**
- **Global Coverage**
- **Mass Production**
- **New SpacePorts**
- **Large scale launching (monthly)**
- **New challenger accessing to space**

# NewSpace – Foreseen reality

**A REVOLUTION IN SATELLITE MANUFACTURING**  
No one has ever built a satellite in one day... we will build several every day!

**TOTAL COVERAGE**  
Internet to everyone, everywhere on Earth

**GLOBAL LOW EARTH ORBIT CONSTELLATION**  
Providing high-speed internet connectivity equivalent to terrestrial fiber-optic networks

- OneWeb (900 Sat's)
- Boeing (4.000 Sat's !!!)
- VIASAT...
- Others...

**Facts & Figures**

- size
- less than 150 kg weight
- up to 4 built every day
- 900 satellites to be built

**AIRBUS**  
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# Space Debris – the heritage of the responsibility



# New opportunities for Portugal (through the Azores)

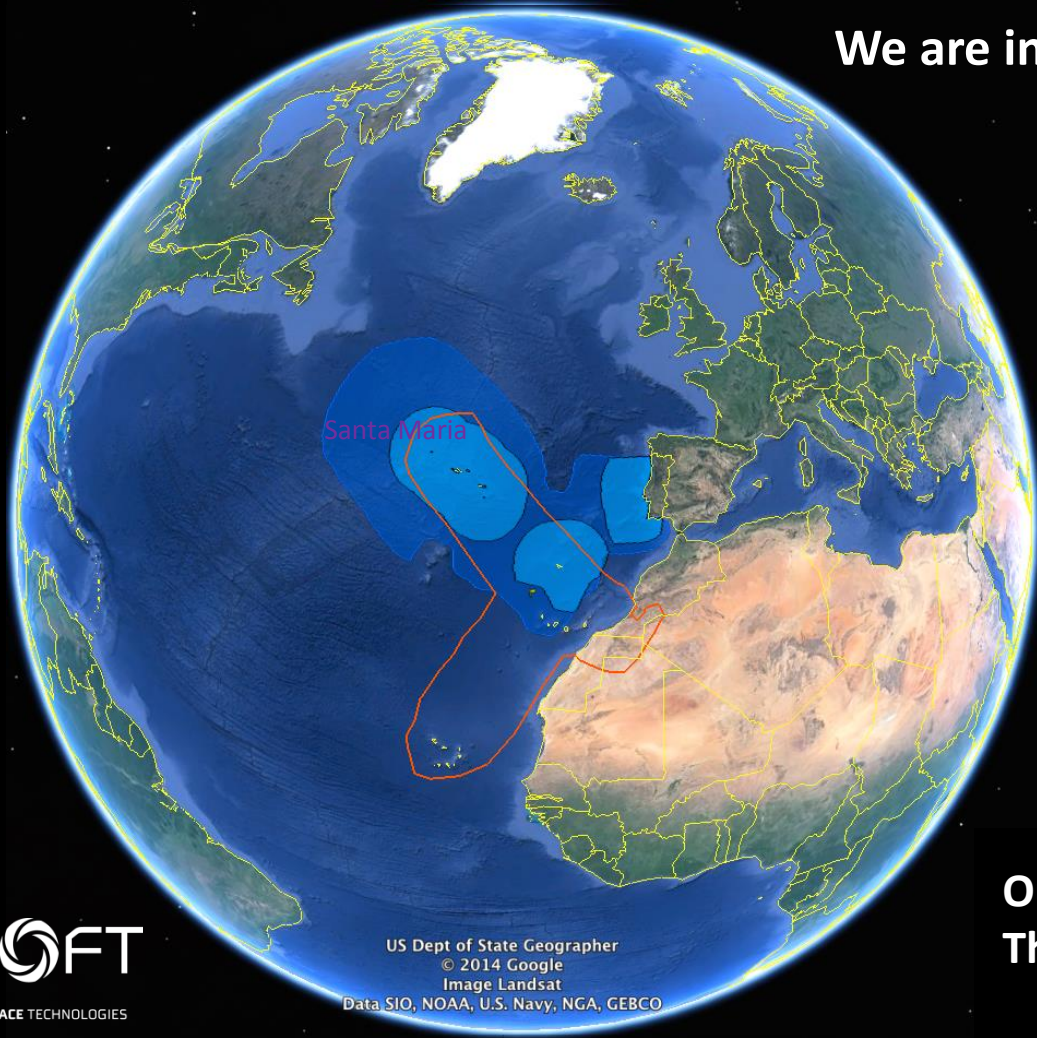
- **Space Ride (ESA Mission)**
- **SpacePort**
- **World wide network operations**
- **Opportunity to develop a National Strategy for Space**
  - The Portuguese Space Agency
  - The Space Law
  - A national program for Space

**Portugal is one of the biggest countries in Europe**

**Portugal is Land**

**but Portugal is essentially SEA....**

**We are in the centre of the world!**



US Dept of State Geographer  
© 2014 Google  
Image Landsat  
Data SIO, NOAA, U.S. Navy, NGA, GEBCO

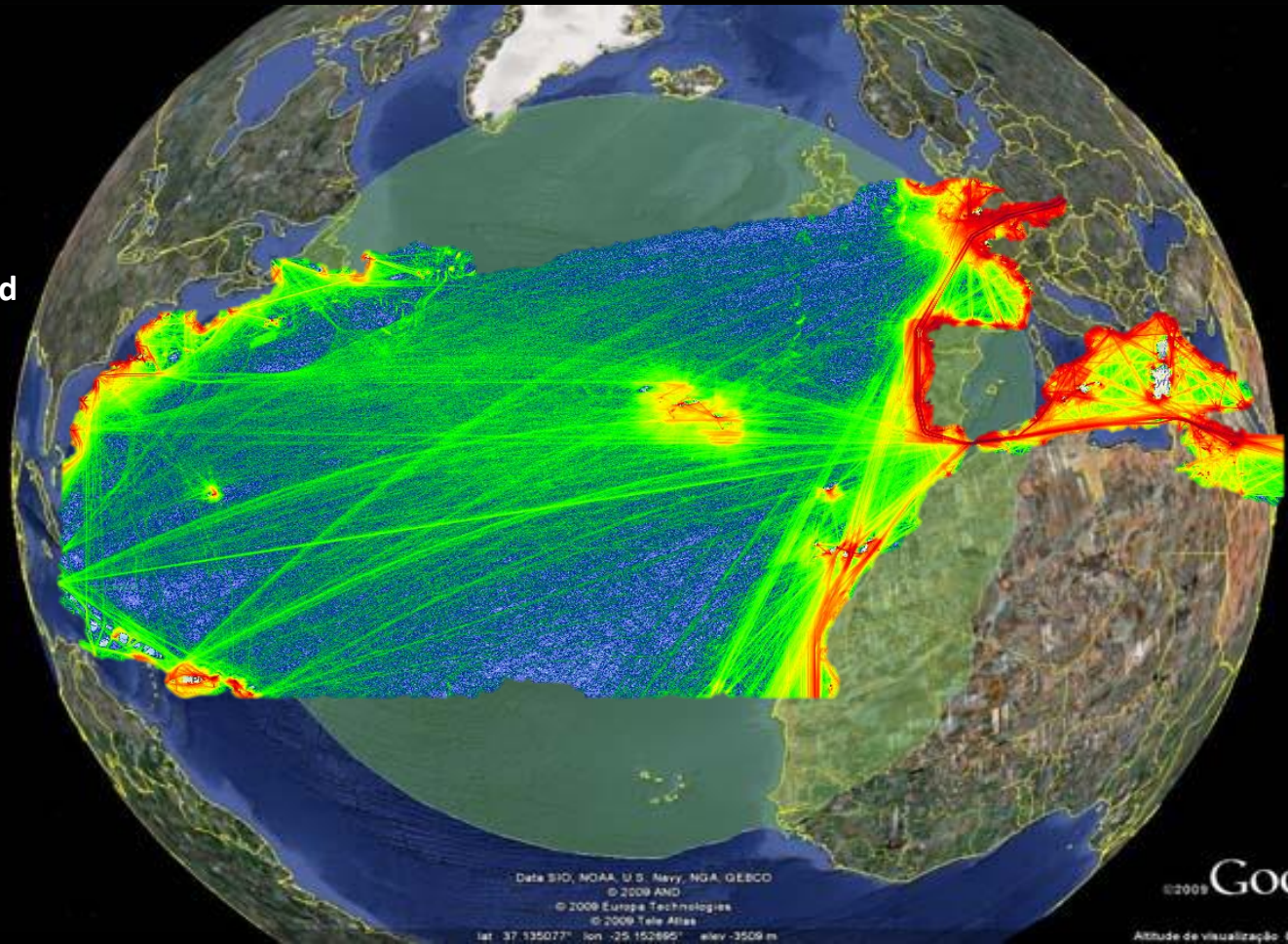
**Our location:  
This is our Raw Material**

# Taking this perspective, many things happens here every day

The Atlantic region crosses  
Americas, Europe  
and Africa continents

And brings new challenges and  
needs:

- Environment Monitoring
- Abnormal behavior
- Piracy
- Tracking good
- Safety trading
- Climate
- Comms (Gateways)
- VLBI (Geodetic Interferometry)



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Data SIO, NOAA, U.S. Navy, NGA, GEBCO  
© 2009 AND  
© 2009 Europa Technologies  
© 2009 Tele Atlas  
lat: 37.135077° lon: -25.152895° elev: -3509 m

©2009 Google

Altitude de visualização: 8139.78 km

# Santa Maria TELEPORT



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**Started in 2007**

**Currently several services are running daily through this region**

- **Tracking Launcher for the European Space Port in the French Guiana**
- **Tracking launcher for private markets (private SpacePorts)**
- **North Atlantic Environment Monitoring (oil spills) for International Programs**
- **Tracking vessels**
- **Satellite Navigation constellations Monitoring (Galileo)**
- **Hosting stations for International network partners**

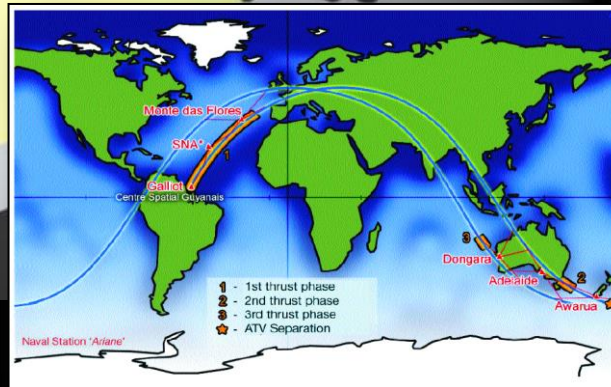




**Santa Maria Azores – ESA Tracking Station Operated by EDISOFT since 2007**  
**ESTRACK Stations Network Tracking Station part of Ariane Tracking Stations Network**



Tracking the upper stage of the launcher in their propulsion phase



Launchers: Vega, Soyuz, Ariane 5

## Tracking Launchers

SMA Tracking Station is part of the Ariane Tracking Stations Network used to support launcher vehicles





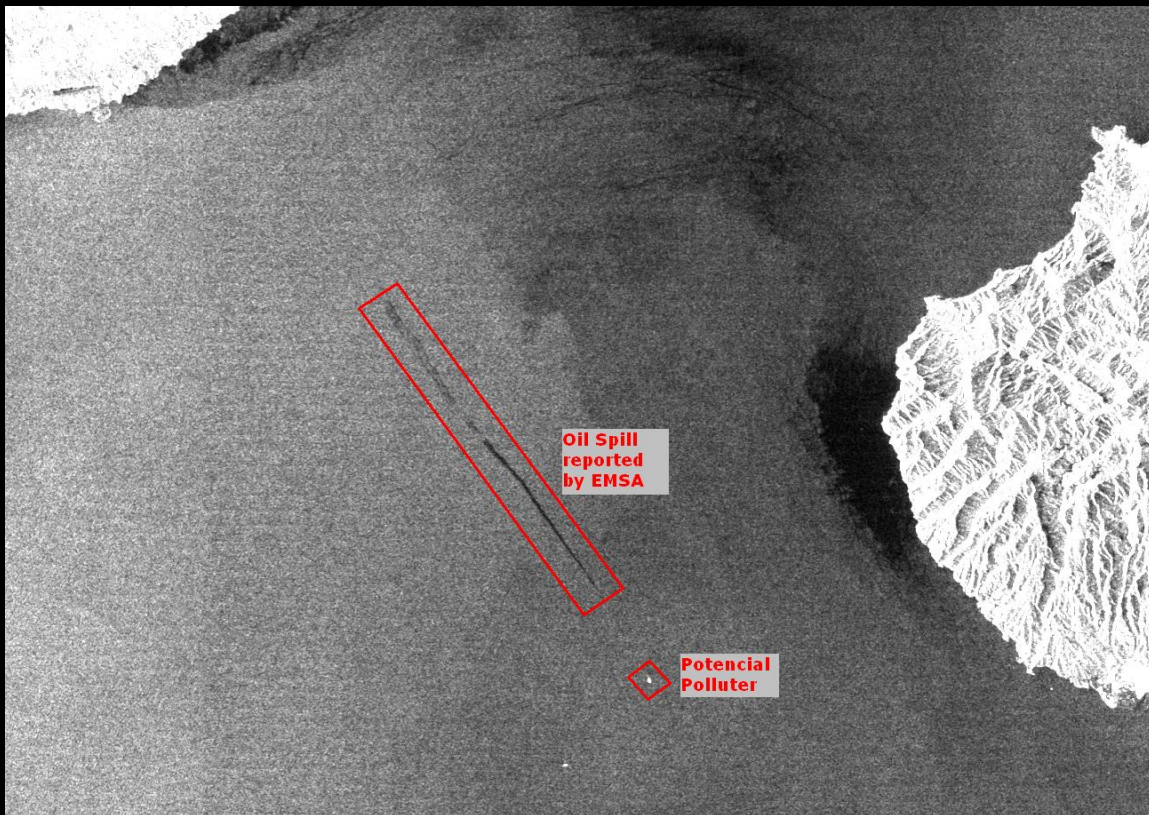


Imagem adquirida em 13 Outubro de 2010

## EARTH OBSERVATION – OIL SPILL DETECTION

Since 2007 EDISOFT provides an operational service for EMSA (European Maritime Safety Agency)

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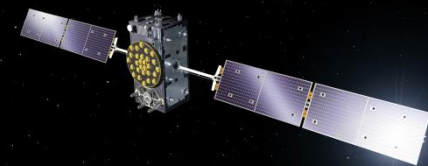
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## **GALILEO Sensor Station - Santa Maria Açores – March 2014**

**Network of stations monitoring signal quality, clock timings and positioning of the Galileo satellites orbiting Earth**

**Galileo is Europe's global navigation satellite system**

# **New challenges under preparation (2018)**

- **International visibility of Azores for the Ground Segment**
- **International partnerships**
- **Intensive operations for private market and institutions (International Space Agencies for scientific missions)**
- **To play a role in the access to space for the upcoming constellations**
- **Creating .....**

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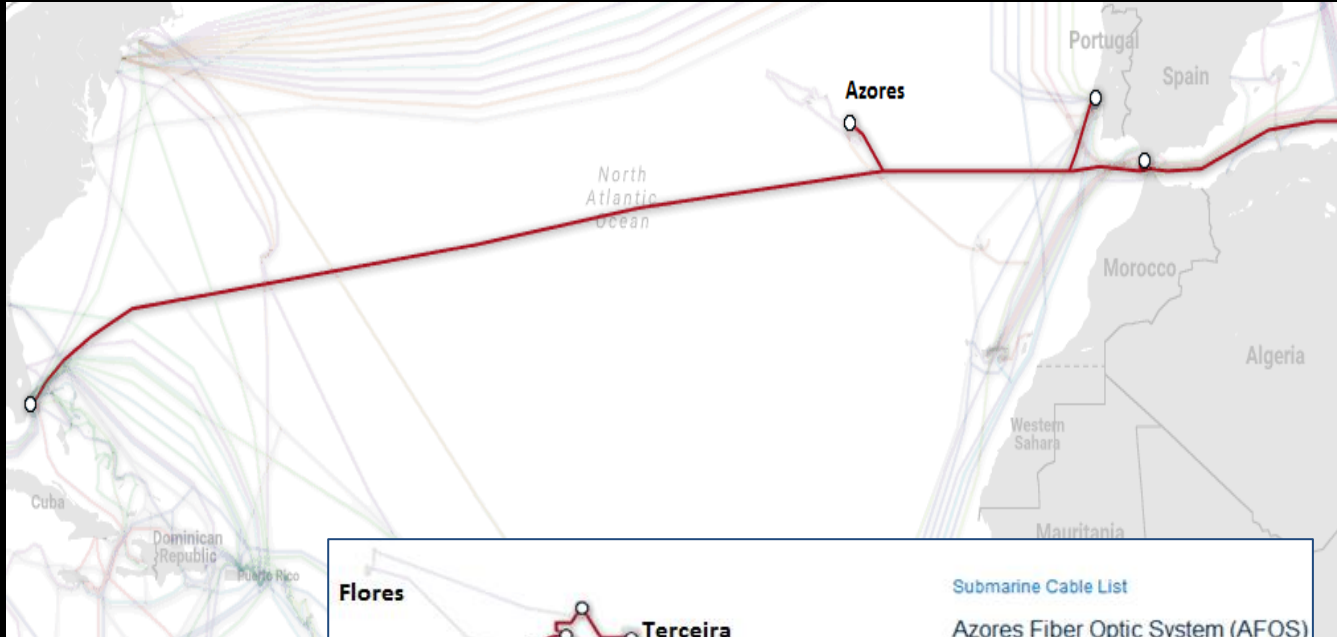
## Main Advantages

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# Mid Atlantic Cable – Connecting Europe and Americas



## [Submarine Cable List](#)

### Columbus-III

[✉ Email link](#)

RFS: December 1999

Cable Length: 9,833 km

Owners: Telecom Italia Sparkle, AT&T, Verizon, Telefonica, Portugal Telecom, Tata Communications, Ukrtelecom, Telkom South Africa, Telecom Argentina, Instituto Costarricense de Electricidad, Embratel, Cyt

URL: n.a.

## Landing Points

[Carcavelos, Portugal](#)

[Conil, Spain](#)

[Hollywood, Florida, United States](#)

[Mazara del Vallo, Italy](#)

[Ponta Delgada, Portugal](#)



## [Submarine Cable List](#)

### Azores Fiber Optic System (AFOS)

[✉ Email link](#)

RFS: July 1998

Cable Length: 1,100 km

Owners: Portugal Telecom

URL: n.a.

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# Hosting Services – A Gateway to Space

- Hosting Services for external partners
  - Telecom (VSAT's)
  - SAT AIS
  - Constellations
- Telecom Interface with the submarine cable
- Support services with high demanding SLA (high availability) 99,9%
- Equatorial and inclination orbits
- Life cycle maintenance



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# Telemetry, Tracking and Command (TT&C) Ground Stations



- Support tracking launcher during the complete trajectory
- Global coverage in a global network cooperation
- LEOP
- Prepared for Spaceports ground segment services



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# Political environment

- Political stability in the Region
- Strong commitment of the Regional Government
- National Strategy for space Activities
- Incentives for the investment

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# Santa Maria TELEPORT - A perspective for 2018



# Santa Maria TELEPORT - A perspective for 2018



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