Neutral Access Point
of Western Africa and Canary Islands

ALiX Project
TIER III Datacenter

October 2010

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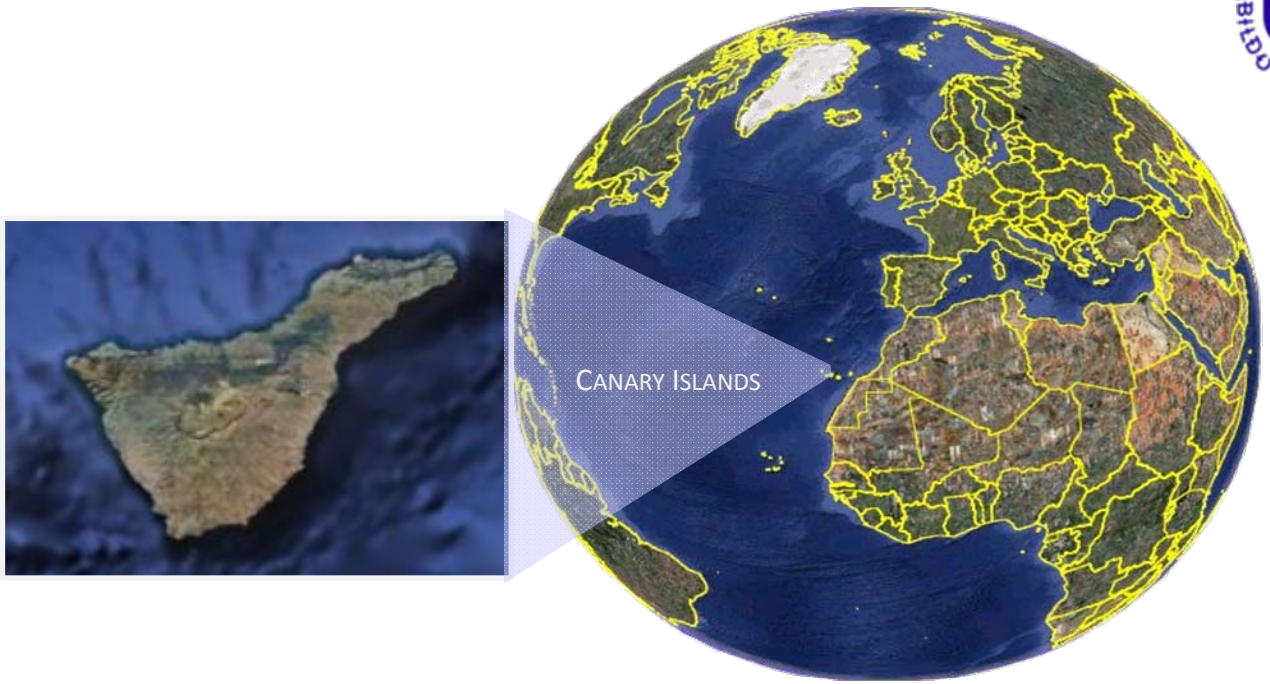
Introduction: Tenerife



- The Island of Tenerife is the biggest and most populated island of the Canary Islands archipelago, a region of Spain and the southernmost territory of the **EU** on the West Atlantic Ocean.

ISLAND OF TENERIFE

- The **Government of the Island** of Tenerife (Cabildo Insular de Tenerife) is actively investing in different projects in order to develop connectivity in and beyond the Island, introducing competitive conditions on Telecom and IT markets.
- Our plan is to convert Tenerife in the **mayor peering point** for West African countries, providing direct connections to Miami and other points across the Atlantic.

General Information

Population: Over 900.000 people by 2010

Area: 2042 km^2 → 788.42 mi^2

Top Height: Teide Mountain – 3718m → 12198 ft (Highest peak in Spain)

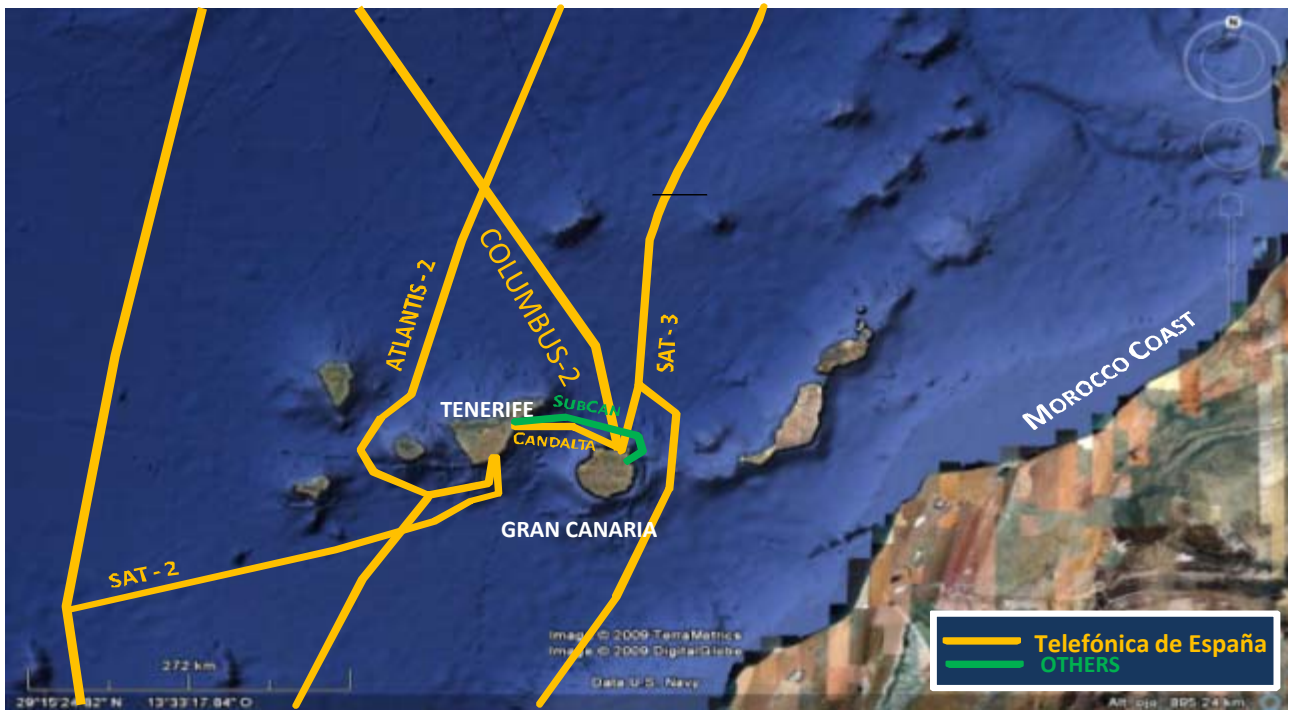
Currency: Euro (€) "1€= 1.39$ US Dollars", by October 8, 2010

Transportation: 2 International Airports – Over 11million people handled per year

Tourism: Over 5 million people every year

Tax Benefits: Different options→ IGIC | REF | ZEC

Current Connectivity



- The **Canary Islands** are currently an international connectivity hub in the West African Atlantic region.
- However, connectivity offer to the outside is controlled by a single party, participating in different consortiums as the only Landing Party in Canary Islands and Continental Spain, introducing **monopolistic conditions**.
- The Government of the Island of Tenerife is determined to **change** this situation, developing different projects specifically conceived to introduce concurrence conditions.

ALiX Project

- Main purpose - Convert **Tenerife** into the **mayor peering point for West African countries:**
  - IT3 – “Instituto Tecnológico de Telecomunicaciones de Tenerife” – Develops all initiatives related to the promotion of inner and outer connectivity, concentrating them at the facility**.**
  - **NAP of Western Africa and Canary Islands** – Develops datacenter infrastructures in Tenerife as the meeting point for IT companies and telecommunication networks being developed in the area.

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Action Points

ISSUES	SOLUTIONS	PLAYERS
Lack of high end IT infrastructures capable of concentrating international telecom networks and to serve as TIC service platform.	**NAP** development	NAP
Non-competitive conditions on Canary-Mainland Europe connectivity.	Concurrence introduction by new submarine infrastructure linking Tenerife and Gran Canaria to the Iberian Peninsula – CanaLink.	IT^3
Lack of Canary - Africa – Latin America connectivity.	Connectivity development between new and existing African and Latin American cables to the **NAP**	IT^3
Lack of terrestrial backbone network integrating the territory.	Development of a neutral fiber optics network joining **NAP** to all telecom operators, and themselves to every municipality of the Island.	IT^3

Terrestrial fiber deployment

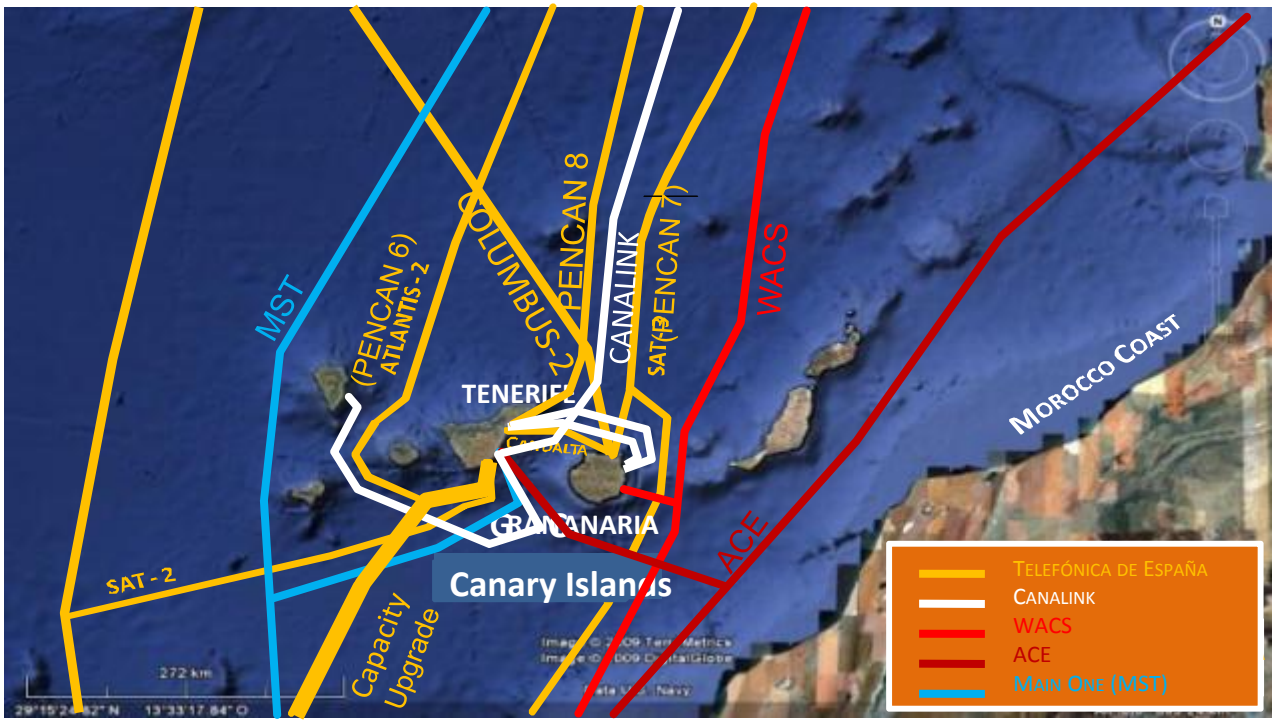
Initial Ring– March 2011

Full Double Ring - 2015

- March 2011 – Local fiber ring connecting:
  - -Datacenter – TIER III facility→ multiple operators
  - -**Metropolitan** area - +400.000 people
  - -Touristic areas - +150.000 people + tourism

- 2015 – **Full** double **ring** will connect the rest of the population- Up to 900.000 people

Submarine Connectivity – 2011-2012



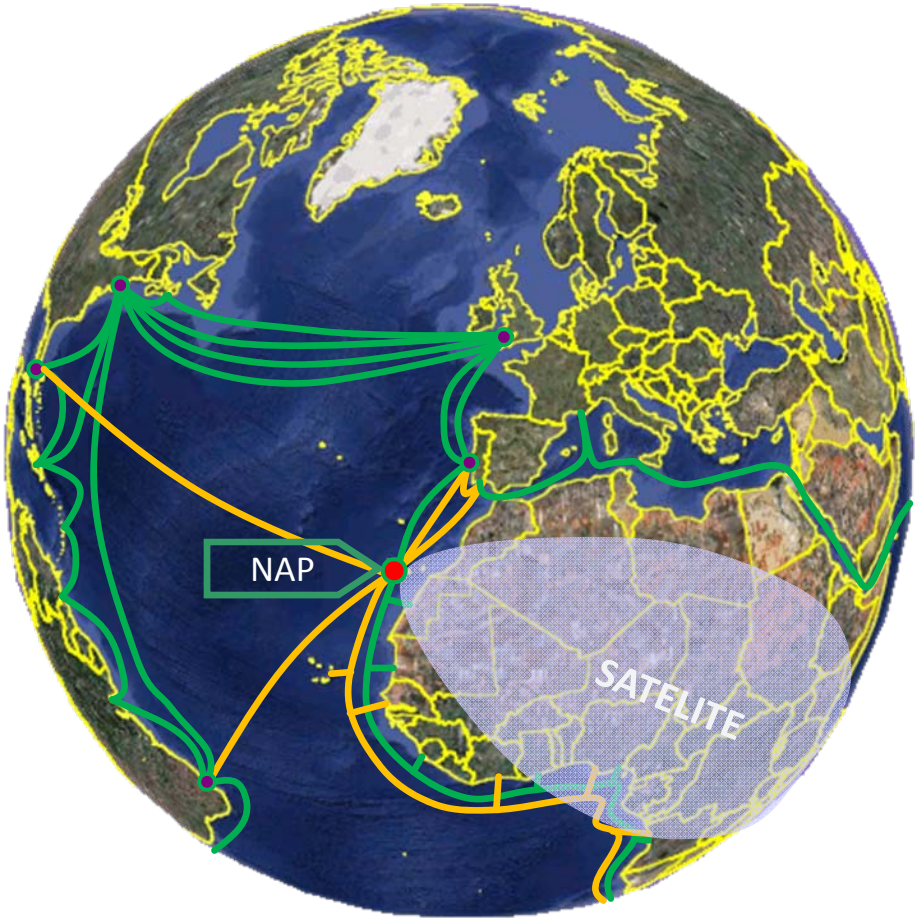
- Direct connectivity with Europe – Two new cables
- Direct International connection:
  - ACE/MST/WACS/SAT-2→ Europe-Africa
  - Atlantis 2 – Miami
  - Columbus 3 – South America
- Owned redudancy among main Islands

World Class Datacenter

- **NAP** is the main hub of the **Alix** project and will bring together:
  - Submarine connectivity
  - Terrestrial fibre deployment
  - World class datacenter
- **NAP** provides a high-availability installation(TIER III+) regulated under European Union laws
- **NAP** could greatly facilitate development and business plans for American companies with interests in Africa

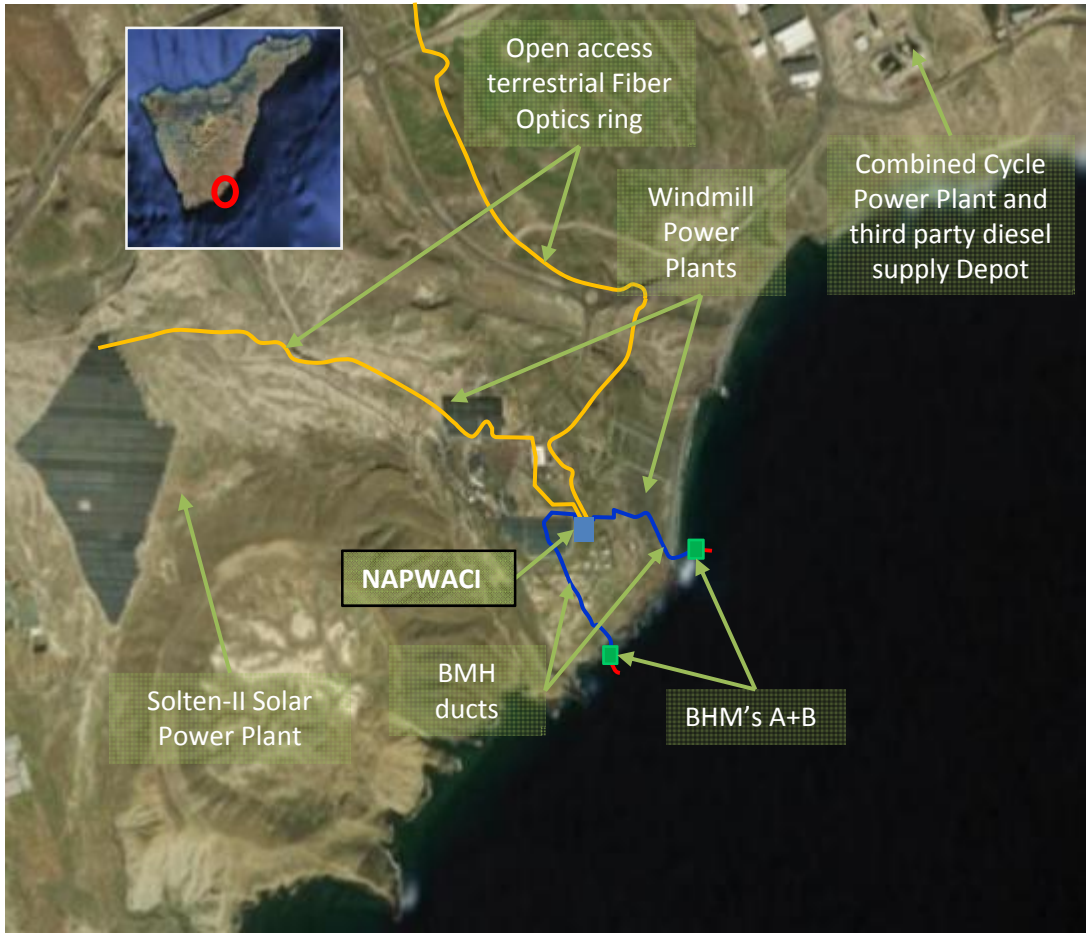
Location

- Converting Tenerife on an aggregation **hub** between continents, developing a Network Access Point (NAP) in Tenerife and exponentially increasing submarine connectivity between Canary Islands, Africa, Europe and in the coming future, Latin America.
- Increase Information Society penetration through competence introduction, contributing to **Africa development** providing better access, lower peering rates and telecom liberalization.
- Serve as forward base for **IT companies** willing to operate in a Africa and Latin America benefiting from the stability of a territory of the European Union and the fiscal advantages of the special economical and fiscal regimen of Tenerife.



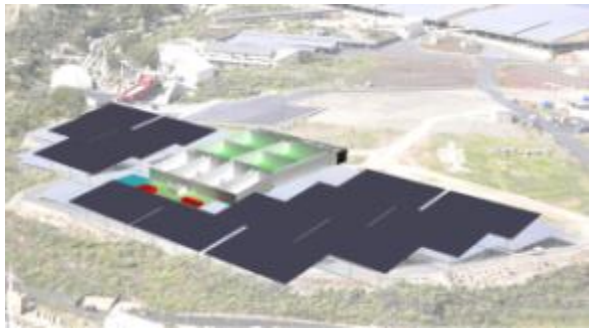
Facilities

- Dual submarine cable landing (400 m away), all intermediate ducts between BMH's and Datacenter in proprietary land
- Three different power sources available nearby
  - Solar Power Plants, including the whole Datacenter roof
  - Windmill Power Plants
  - Combined Cycle Power Plant
- Nearby third party diesel supply Depot. Supply contract with signed SLA's
- Connected to the all operators and cable Stations on both Tenerife and Gran Canaria through redundant open fiber optics networks.

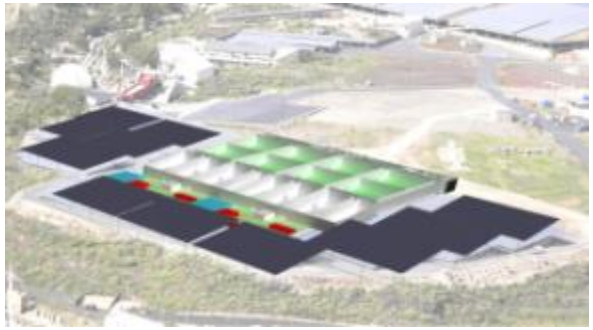


Modular Concept

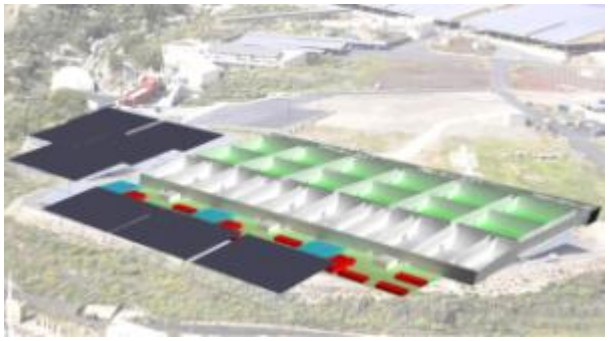
Phase I– March 2011 –2.500sq m



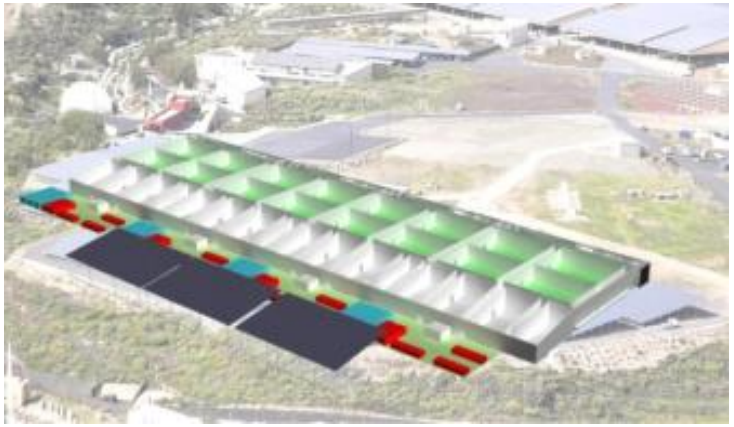
Phase II– 60 weeks- 5.000 sq m



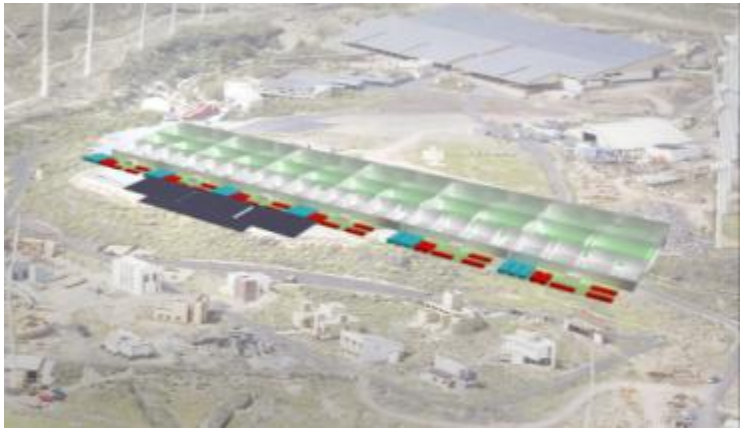
Phase III – 72 weeks – 7.500 sq m



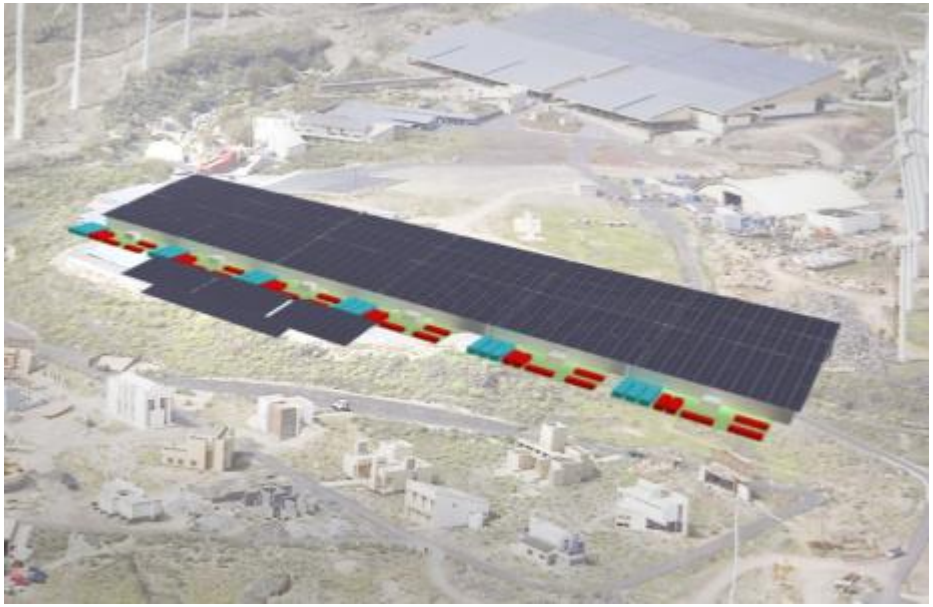
Phase IV –90 weeks – 10.000 sq m



Phase V-VI –110 weeks – 17.000 sq m



Green Data Center



PV on top – **2.4Mw**

- Renewable production for own use
- Modularity – Adapted to real needs
- Cutting edge efficiency solutions
- Reduced energy loss due to monitoring and control

Located inside a **Renewable Energies** Institute:

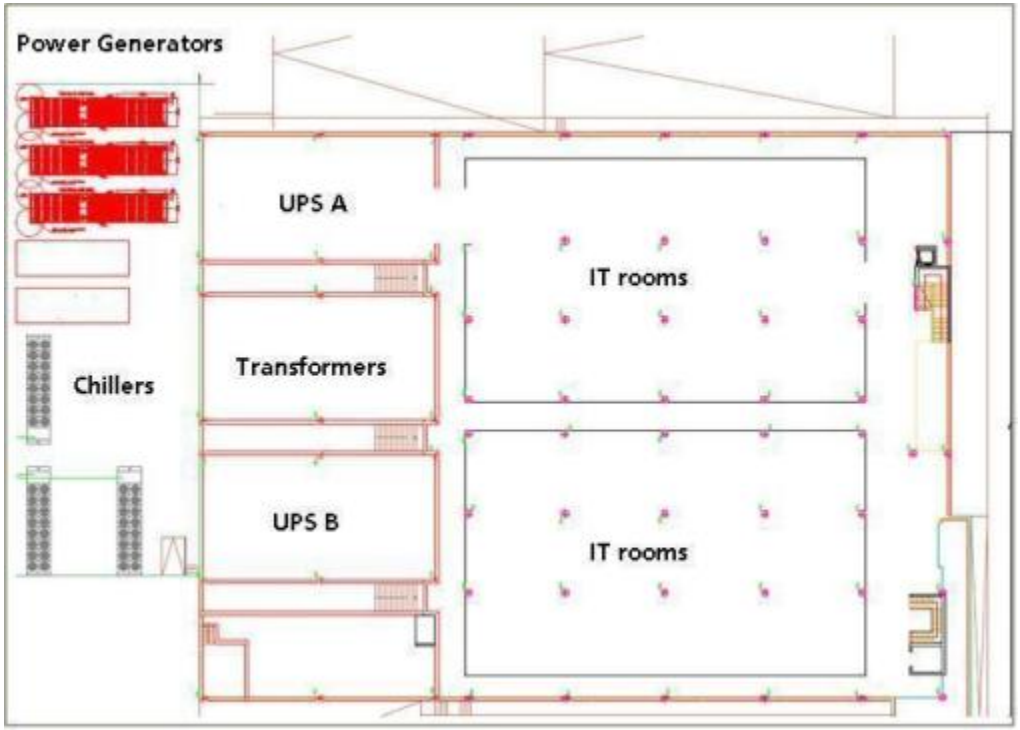
- 25 MW of PV
- Over 50MW installed all over the island
- 15 MW of Wind Power
- Up to 60 MW of Wind Power in 2013

Layout – Ground Floor

Each phase will have 1500 m² of colocation space and about 1200 m² for multipurpose modularity, completely customizable for each client:

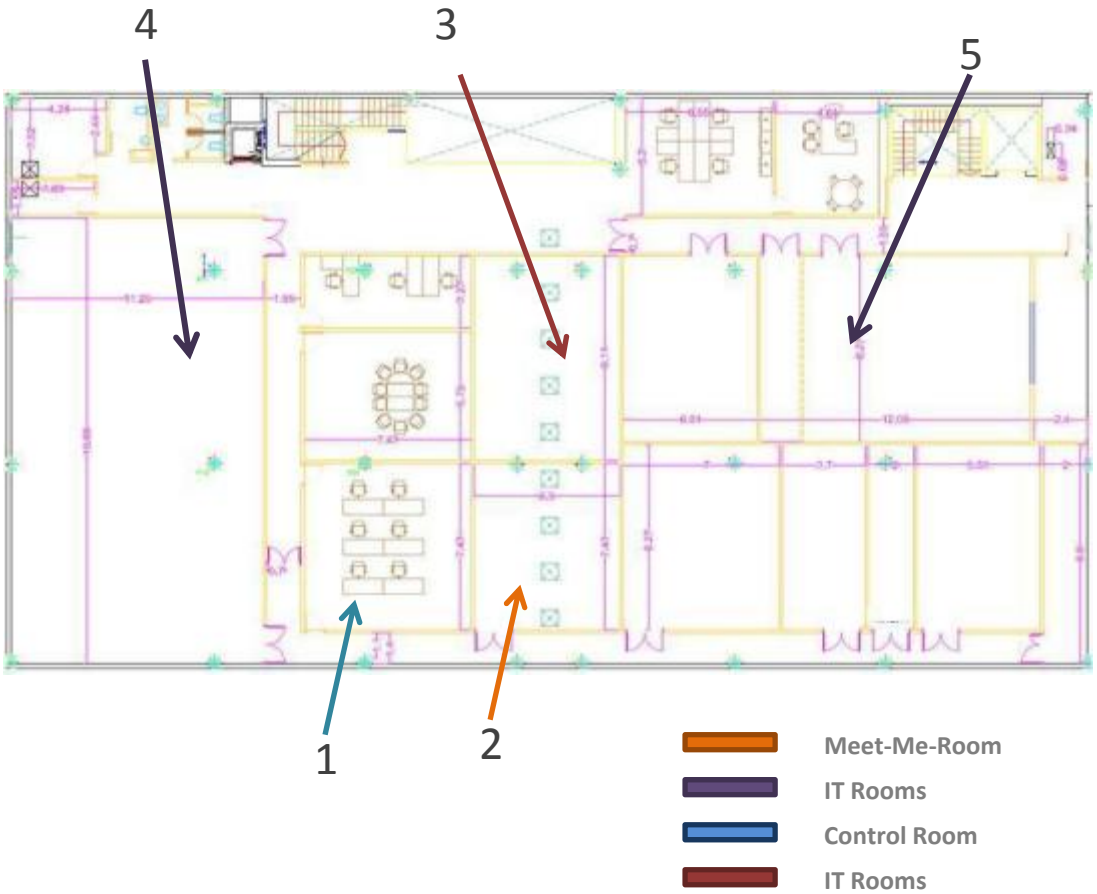
- Ground floor where placing rooms and main equipments.
- Collocation rooms are adaptable and modulable to customer needs.
- Top floor whith multipurpose space (meet-me-room, operators room, submarine cables rooms, meeting rooms, etc).

- Future phases will be sensitive to posible modifications according to market or client needs.



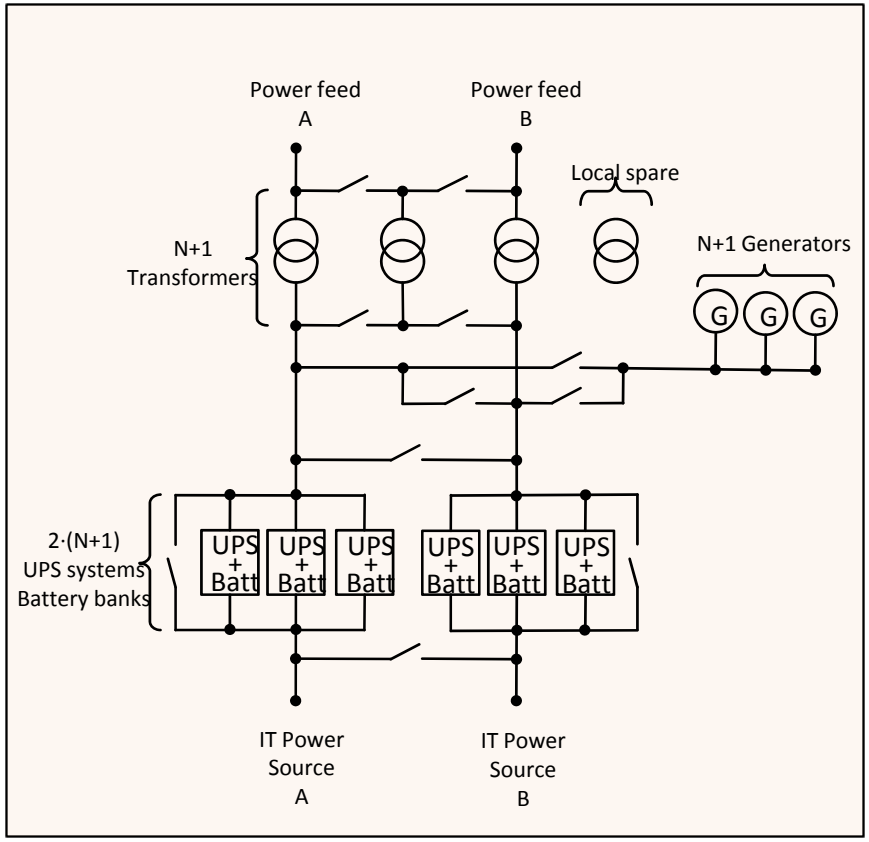
Layout – Top Floor

- Over 1200 m² of multipurpose space:
  - Meeting rooms
  - Storage
  - Control room (1)
  - Meet-me-room (2)
  - Operators' room (3)
  - Private space for clients(4-5)
  - Empty modular space (4-5)



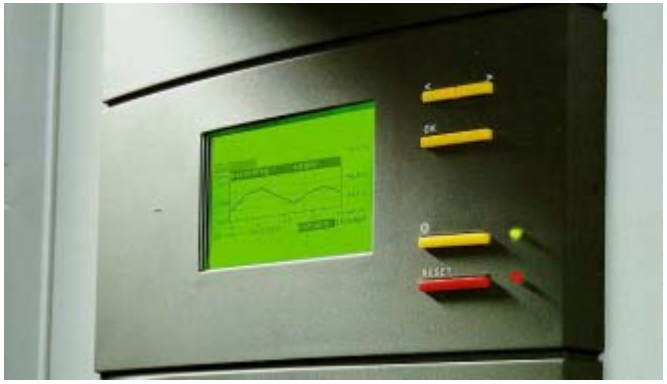
TIER III+ → TIER IV

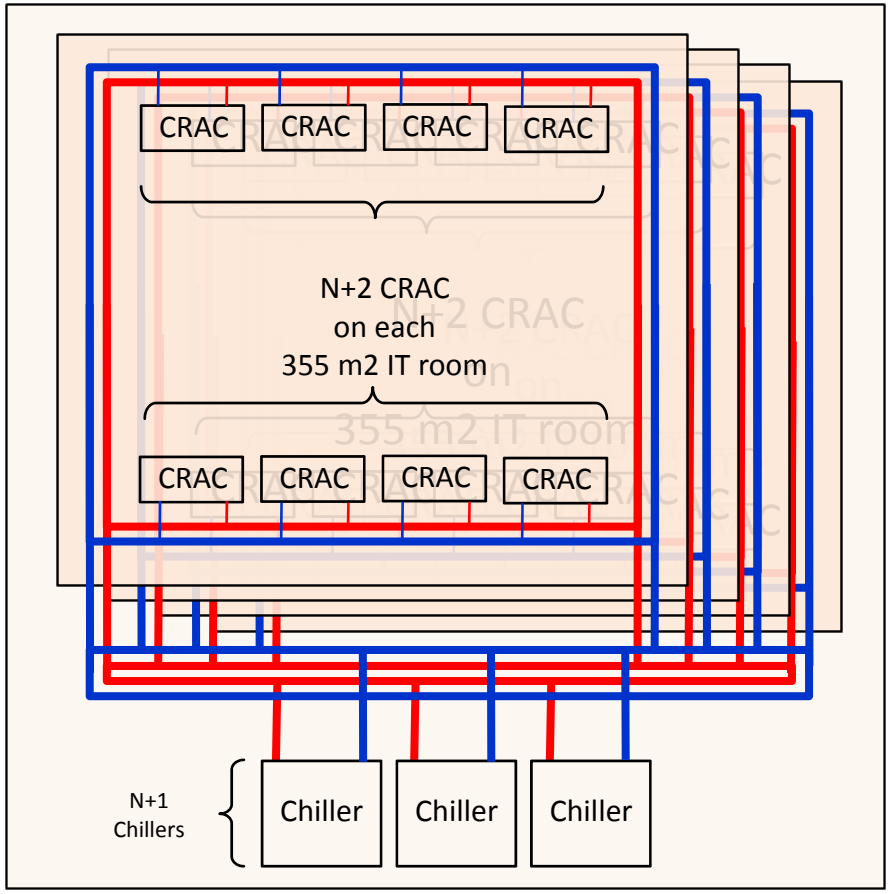
- **Double** power feed
  - Own Electric Substation
  - Thermal power station within 2km
- Renewable energies up to 40MW
- Redundant equipment A+B
- AC and DC supplies
- Power generators at 2N+1
- UPS at 2(N+1)
- Transformers at 2N+1
- New Tier IV electric diagram



TIER III+→TIER IV

- Chillers at N+1
- Interior units at N+1 – 350m2
- 18” Principal manifold
- Double hydraulic circuit
- Full 8” ring
- Room humidification





Tax Benefits

- **Exemptions** from general Spanish **fiscal regime** as an European Union Outermost Region (***REF*** *– Economic and Fiscal Regime for Canary Islands*) similar to Ireland's special tax Regime:
  - **Reduced VAT** (*IGIC*) at **5%** (**0% for telecom** services)
  - **ZEC** (Special Canary Zone) - designed to promote **job creation**
    - **4% reduced corporate tax rate** (instead of general rate of 30% in year 2009).
    - **Maximum tax bases** applicable depending of **the number of direct jobs** created (starting with 5+).
  - **RIC** (Reserve for investments in Canaries) - designed to promote **investment**
    - Tax incentive permitting companies and professionals to have a **reduction in the taxable base** of the Corporate Tax of **up to 90%** of undistributed profit with the **condition to be reinvested in Canary Islands**.
    - Maximum period for the **materialization** of the reserve in fixed assets **is 3 years** from the date of the accrual of the tax corresponding to the financial year of the provision. Fixed assets must **remain in the company for 5 years**.
    - RIC funds can also be used to create or increase the **capital of ZEC companies** and to create jobs, investment in Risk Capital Societies, Investment Funds, public debt and public works.

Further Information under request

January 2010

February 2010

Terrain set-up

April 2010

Building Foundation

May 2010

Ground level

June 2010

Ground level floor

June 2010

Pillars and concrete

July-August 2010

August-September 2010

Closing & plaster

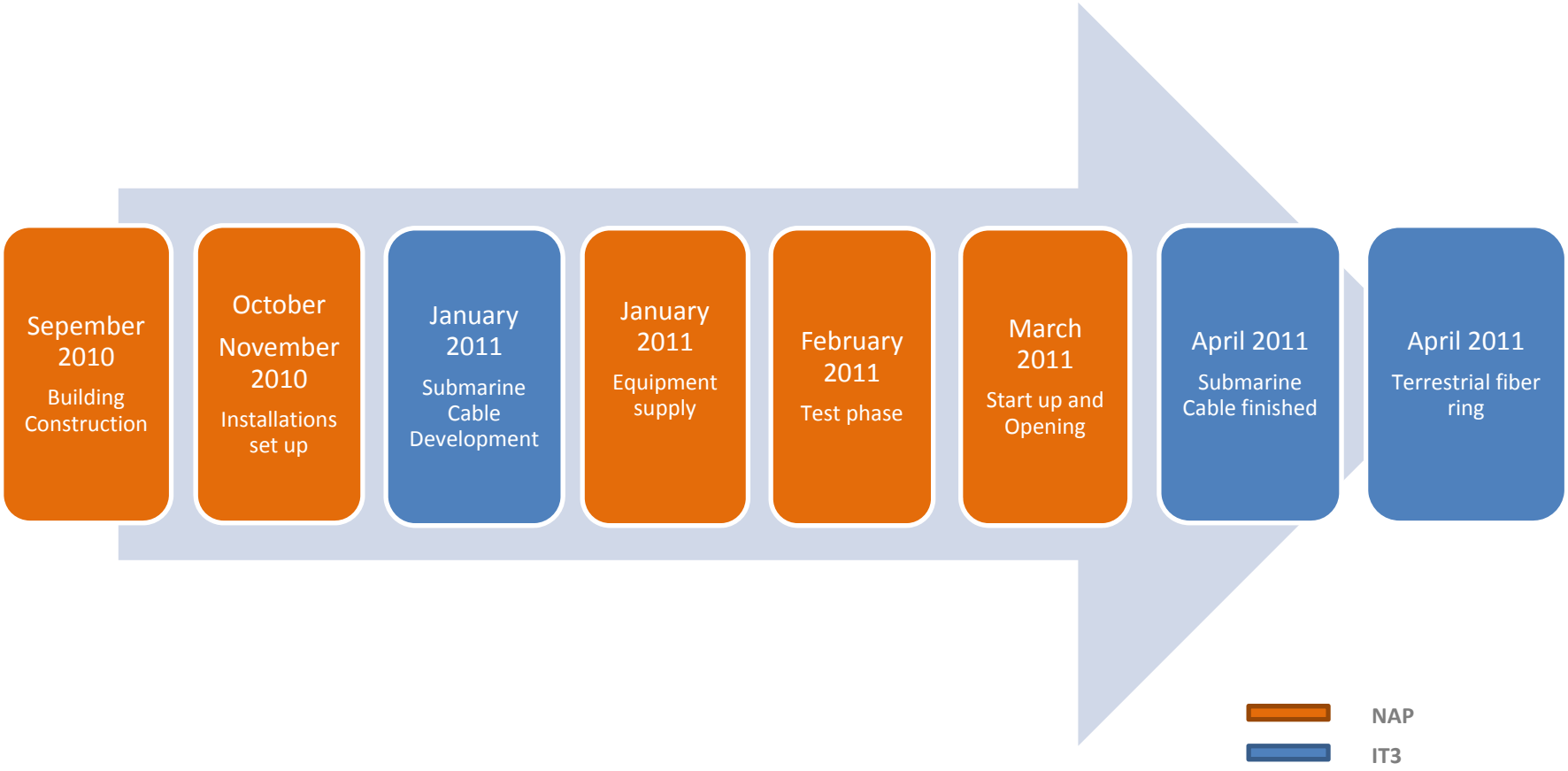
September 2010

Façade & ground floor

October 2010

Raised floor & Trays

Timeline


Sepember 2010
Building Construction
October
November 2010
Installations set up
January 2011
Submarine Cable Development
January 2011
Equipment supply
February 2011
Test phase
March 2011
Start up and Opening
April 2011
Submarine Cable finished
April 2011
Terrestrial fiber ring
NAP
IT3

Contact

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