

PLOCAN consorcio

Plataforma Oceánica de Canarias

Ciencia y Tecnología para la Sostenibilidad del Océano Profundo

*PLOCAN - Test site for ocean energy converters
Oceanic Platform of the Canary Islands (PLOCAN)*

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*Wave Energy Centre Annual Conference 2011
Offshore Renewable Energy and its Potential for the Outermost Regions
Madeira Island, Portugal - 15 September 2011*



Spanish consortium aimed to design, construct and operate an offshore facility consisting of

Multipurpose offshore platform with associated marine electrical infrastructure

Onshore control centre

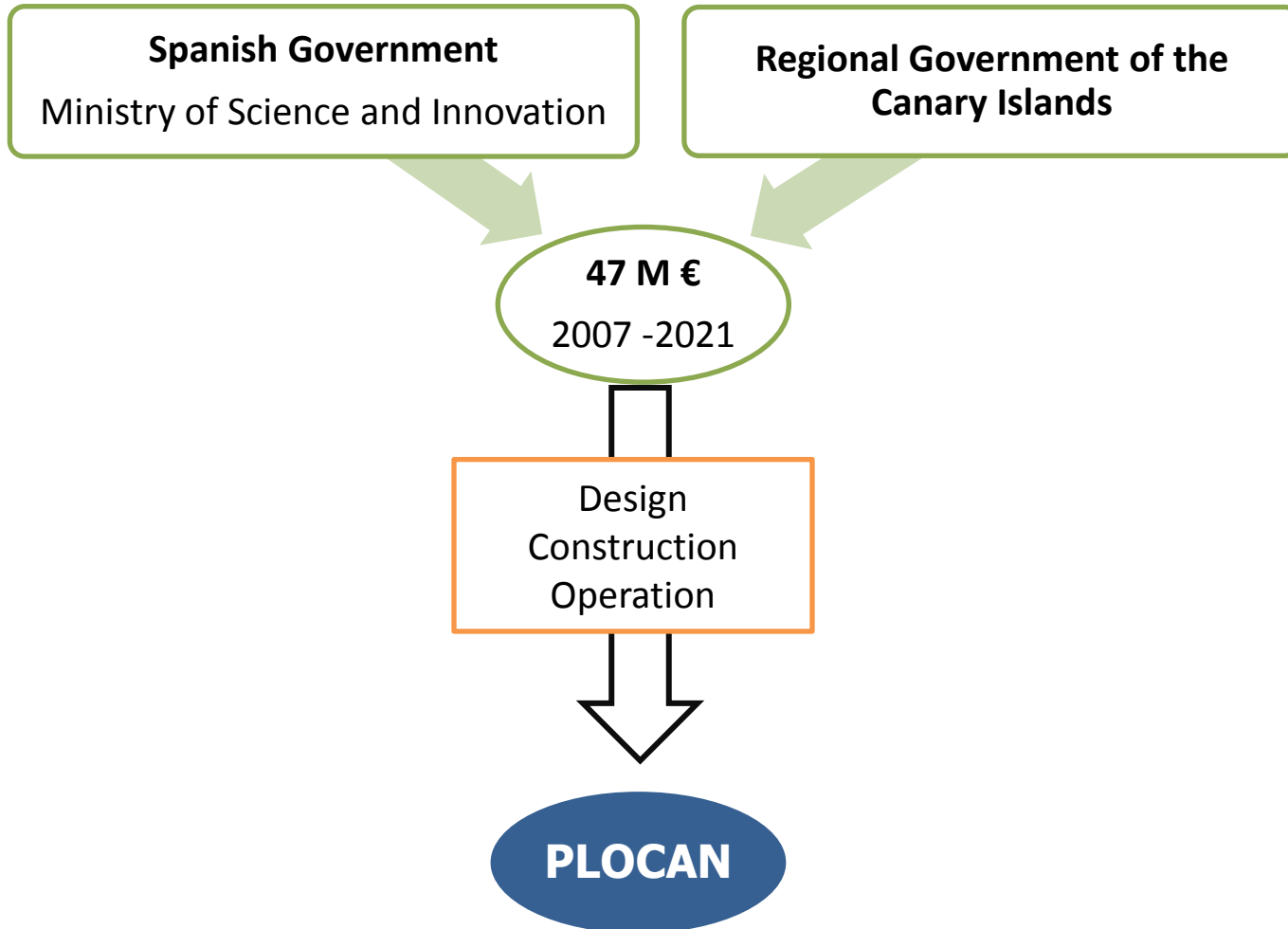
To facilitate and accelerate

Ocean research activities

Oceanic technology development

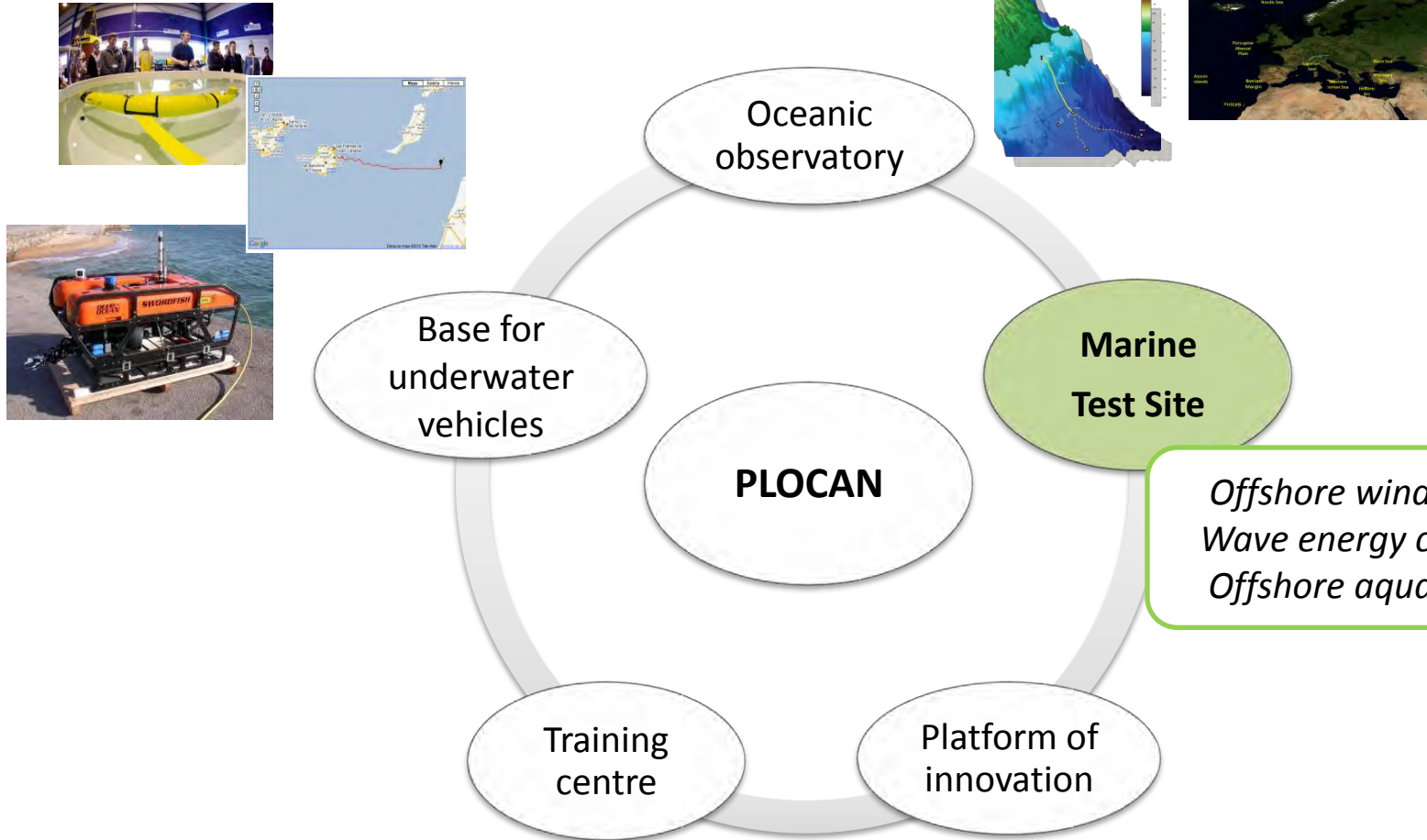
Creating and improving socio-economic activity in the marine sector

Organization



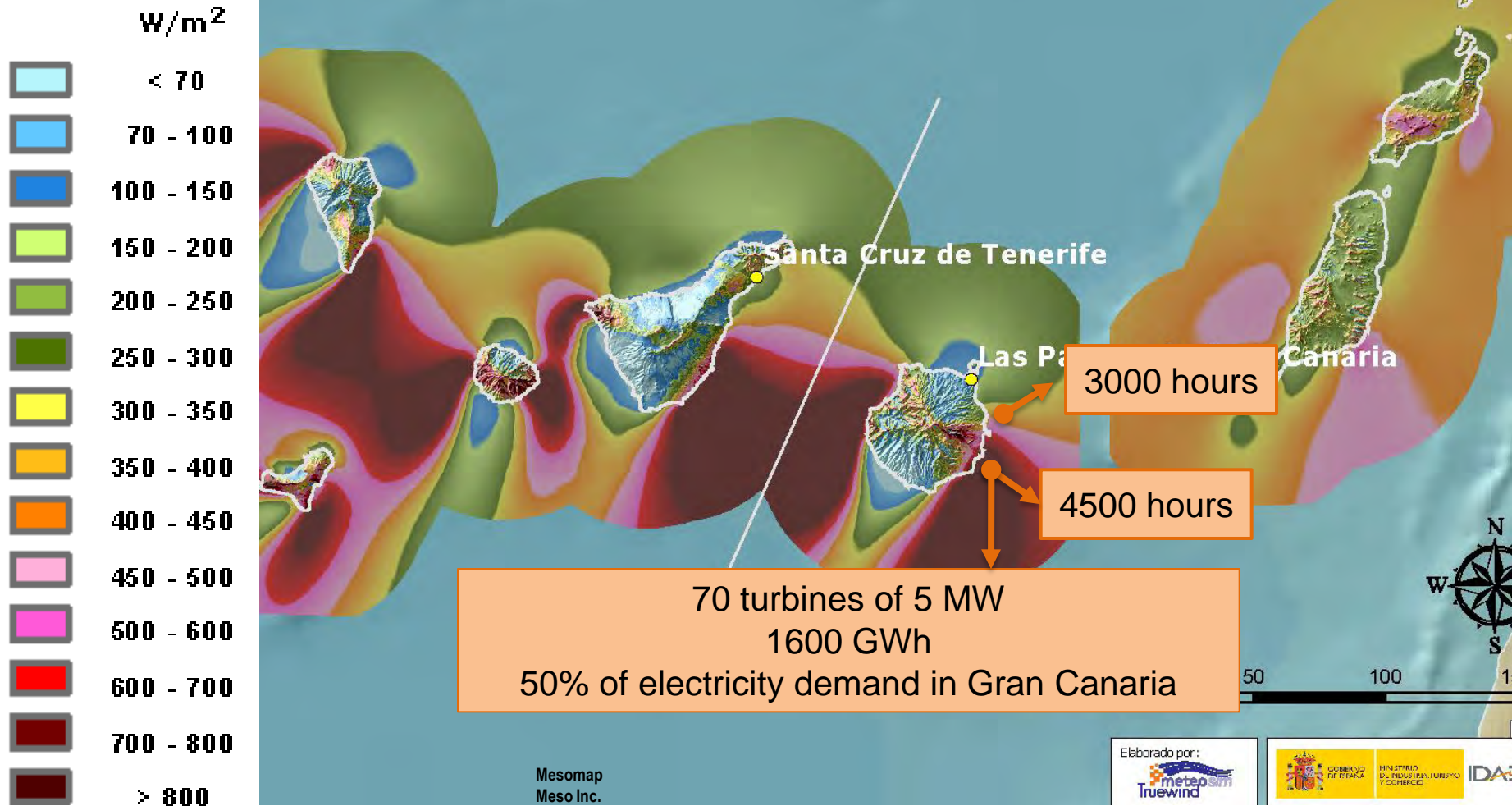


Strategic areas

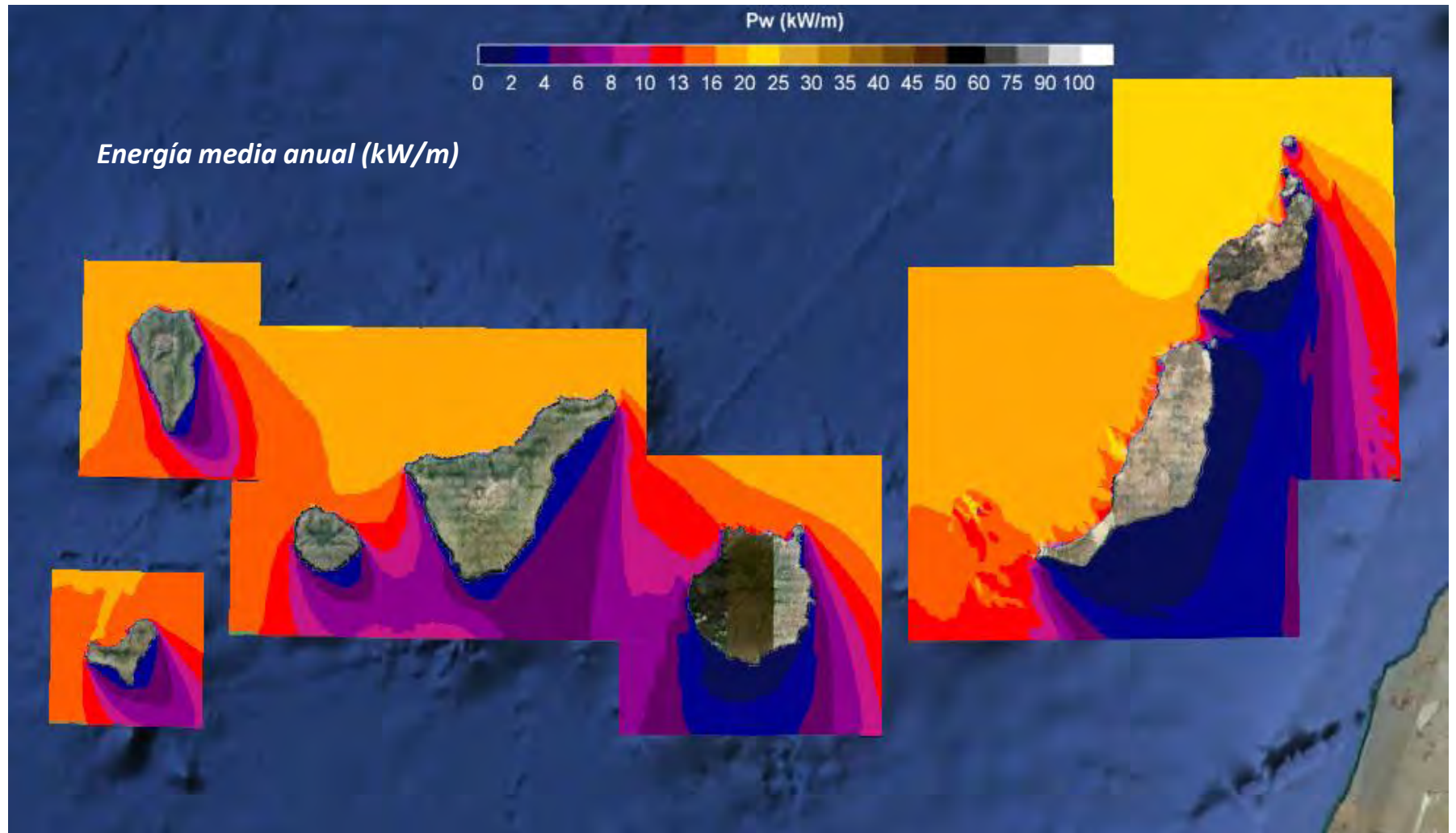


Offshore wind energy resource

Annual average wind power in 80 m height



Wave energy resource

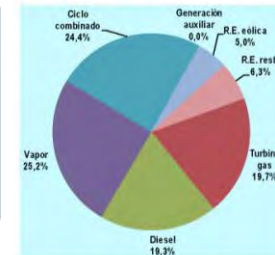


Source: Instituto para la Diversificación y Ahorro de la Energía (IDAE)
Universidad de Cantabria <http://www.ihcantabria.com/enola/>

Energy in Canary Islands

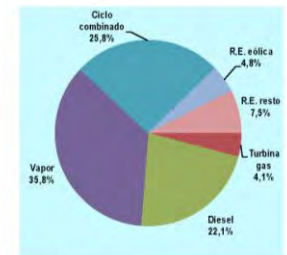
- 90% fossil fuels dependent
- Installed power (7 islands): 2300 MW
- 10% of renewables: 6% on-shore wind (140 MW aprox.)
4% solar photovoltaic (100 MW aprox.)
- Annual demand (7 islands): 9000 GWh aprox.

2.2 Estructura de potencia bruta instalada a 31 de mayo. 2.827 MW



R.E.: Régimen especial

2.3 Estructura de generación neta. Mayo. 730.538 MWh



R.E.: Régimen especial

Regional Energetic Plan of the Canary Islands (PECAN 2006-2015) *in revision*

In 2015: 30% of electricity production from renewables

On-shore wind: 1025 MW

Waves: 50 MW

National Energetic Plan (PER 2011-2020)

Off-shore wind: 150 MW in 2015

3000 MW in 2020

Waves: 100 MW in 2020

Offering the marine infrastructure to test ocean energy converters

- Offshore wind turbines
- Wave energy converters

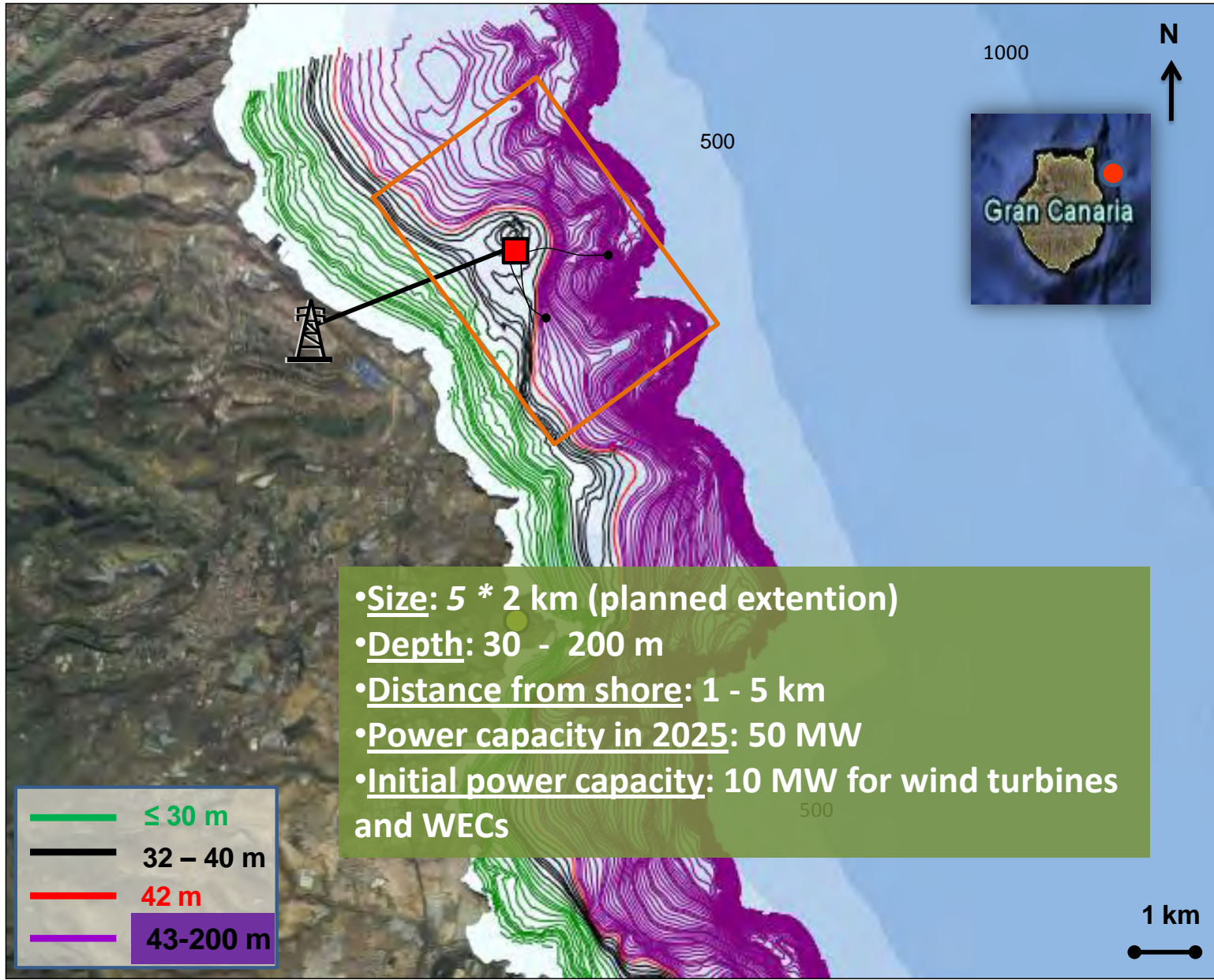
Providing

- Submarine power cables
- Grid connection
- Monitoring

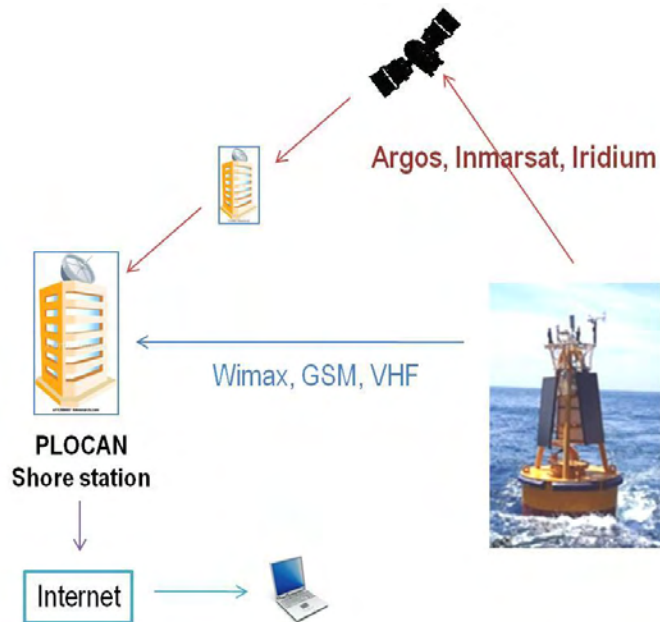
Reducing costs offering associated services

- Permits
- Transport and customs
- Contribution to rise public funds

Test site: Squeme

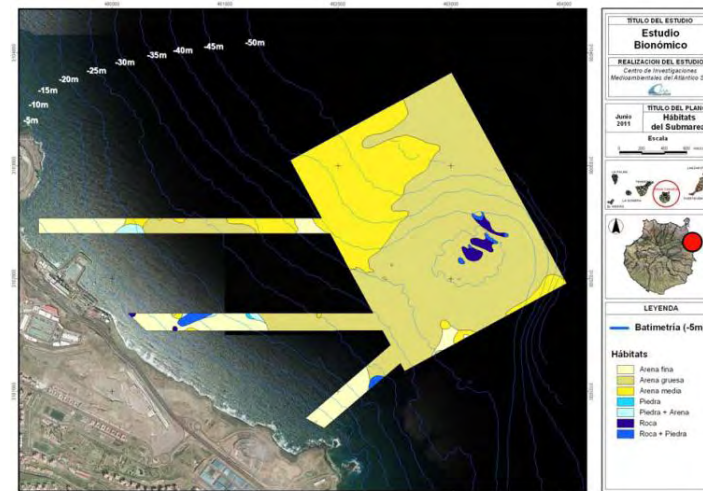
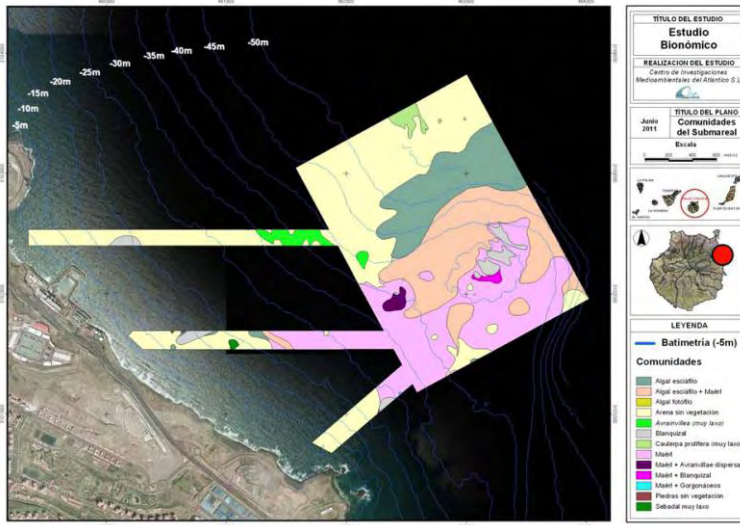
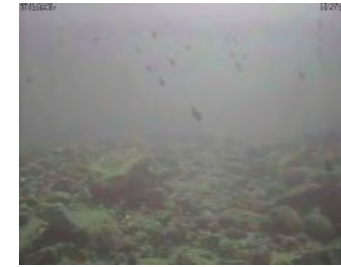


Test site: Logistic

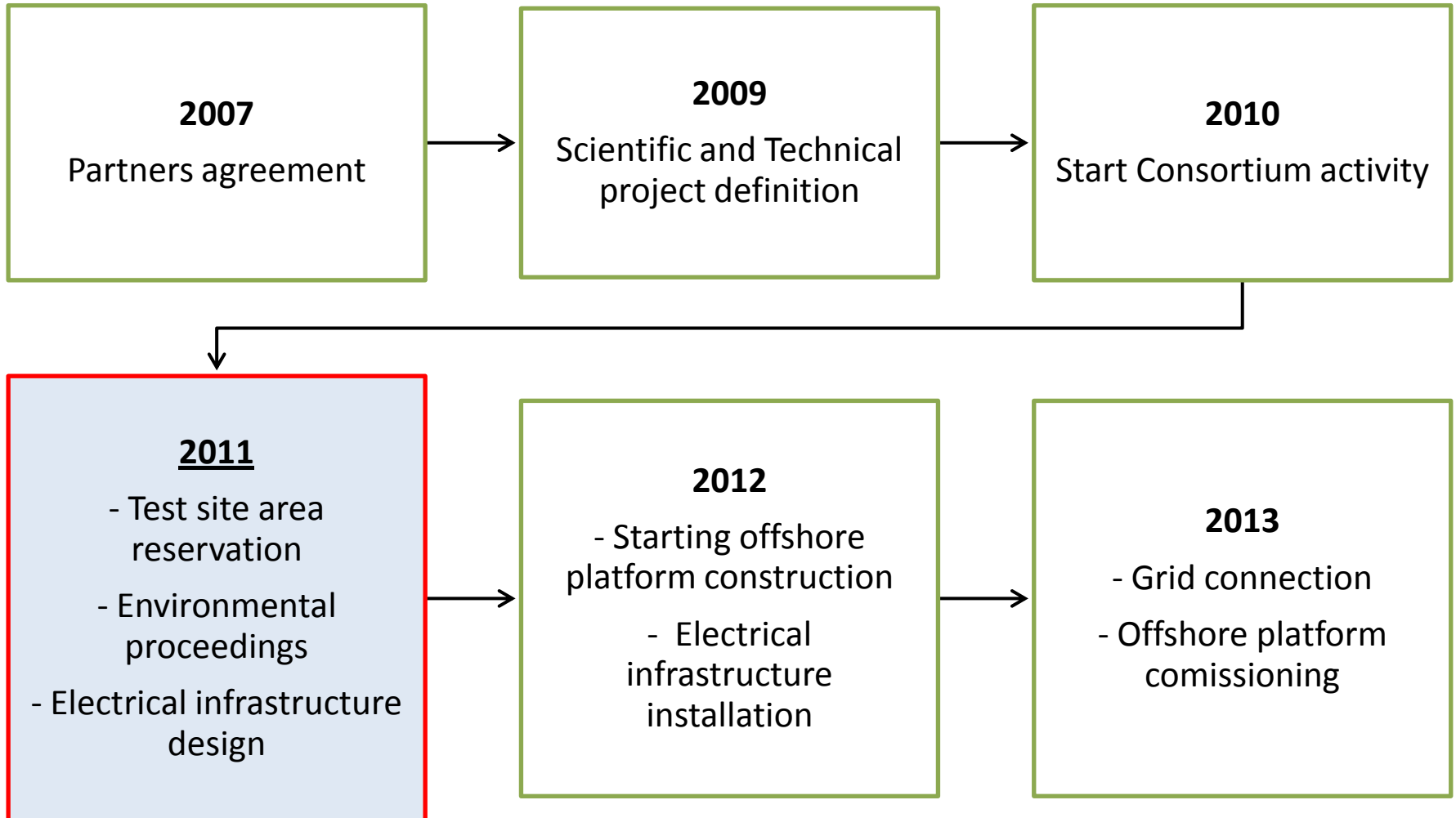


Test site: Environmental studies

- Wave climate
- Water quality: T, S, O₂, pH, metals, nutrients,...
- Benthic communities (video transects)
- Bottom sediments morphology and quality



Planification



WELCOME – Wave Energy Lift Converter Multiple España

Project leader: PIPO Systems S.L.

Funding: Spanish Ministry of Science and Innovation



Objective: Designing, Construction, Deployment and Monitoring of a wave energy converter based on APC-PISYS. Scale 1:5

Deployed in April 2011

www.piposystems.es

www.plocan.eu



PARTNERS

PIPO
SYSTEMS

ANORTEC

CEIB

PLOCAN

INNPACTO Wave Energy

Project leader: PIPO Systems S.L.

Funding: Spanish Ministry of Science and Innovation



Objective: Designing, Construction, Deployment and Monitoring of two devices based on APC-PISYS technology (5 kW and 200 kW)

PARTNERS

PIPO SYSTEMS

TECHNOFLEX

FICOSA

PLOCAN

CEIB
Universidad
Politécnica de
Cataluña

CIRCE
Universidad
de Zaragoza

UNDIGEN

Project leader: WEDGE GLOBAL

Funding: Spanish Ministry of Science and Innovation



Objective: Designing, Construction, Deployment and Monitoring of a wave energy converter based on a new PTO concept (150 kW)

Expected deployment: October 2012

PARTNERS

WEDGE GLOBAL
(Private Company)

FCC
(Private Company)

CIEMAT
(Public Institution)

PLOCAN
(Public Institution)

Thank you

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