

Canary Islands:

Towards a RIS3 strategy



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Some common features of all ORs



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- ▶ Climatic and geomorphological features that offer:
 - Exceptional biodiversity
 - Great diversity of natural resources
 - Specific advantages for scientific research making them laboratories in which analyse and modelise great challenges
- ▶ Geographical position and specific geopolitical reality within the EU
 - European regions in non European environments
 - They can serve as centers of trade and services
 - They can constitute logistic platforms of trade operations between Europe and Africa or America
- ▶ (Renewed) European strategy for ORs + partnership & integrated action plan. Axes:
 - Improving accessibility & integration in the single market
 - Increasing competitiveness through modernization & innovation
 - Strengthening regional integration
- ▶ Principle: balance measures to offset permanent disadvantages and to leverage unique assets in order to fully develop Europe 2020

Introduction to the Canary Islands



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Main economical indicators	Canary Islands	Spain
Demography		
Area (Km2)	7.447	505.645
Population (2011)	2.126.769	47.190.493
Population density (2011) hab./km ²	285,59	93,51
Population/National total	4,51%	100%
Production		
Current *GDP (2011) (thousands €)	41.732.626	1.073.383.000
Current *GDP/National *GDP (2011)	3,89%	100%
GDP per capita (€)	19.806	23.721

* Gross domestic product

Features / Characteristics:

- High population density.
- Economic growth below the national average.
- Decline in per capita GDP in comparison with the national average.
- Dependence on the tourism sector (trade and hotel and catering), and slight relative weight of industry in the national sphere.

Introduction to the Canary Islands



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Main economical indicators	Canary Islands	Spain
Work market(+APS 3T11)		
Activity rate (+APS 4T11)	62.70%	59.90%
Unemployment rate (+APS 4T11)	30.90%	22.90%
Young people employment rate (+APS 4T11)	48.50%	45.80%
Occupation (thousand jobs; +APS 4T11)	764	17,808
Employment by sectors (SRA 2009 *):		
Agriculture	2.00%	4.40%
Industry	5.50%	13.70%
Construction	9.60%	9.40%
Services	83.00%	72.60%
Hotel industry unemployment (2008 *)	13.70%	7.00%
Productivity 2009 (**)(GAV employment current prices, Spain =100)		
Total	97.20%	100%
Agriculture	99.90%	100%
Industry	99.10%	100%
Construction	87.20%	100%
Services	98.70%	100%
Hotel industry productivity (2008*)	105.60%	100%
External sector (thousands. €)		
Exports	1,639,385	132,436,294
Imports	3,893,691	169,486,081
Commercial trade balance	-2,254,306	-37,049,787
Opening ratio	13,40%	28,40%

Features/ Characteristics:

- Unemployment rate far above the national average.
- Youth unemployment much higher than the national average.
- Productivity similar to the national average excepting the building sector.
- Limited relevance of foreign trade, lower rate of non-local trade than in Spain generally, if the tourism sector is isolated.

+ Active Population Survey

(*) Last available information from the SRA (SNI)

(**) Gross added value

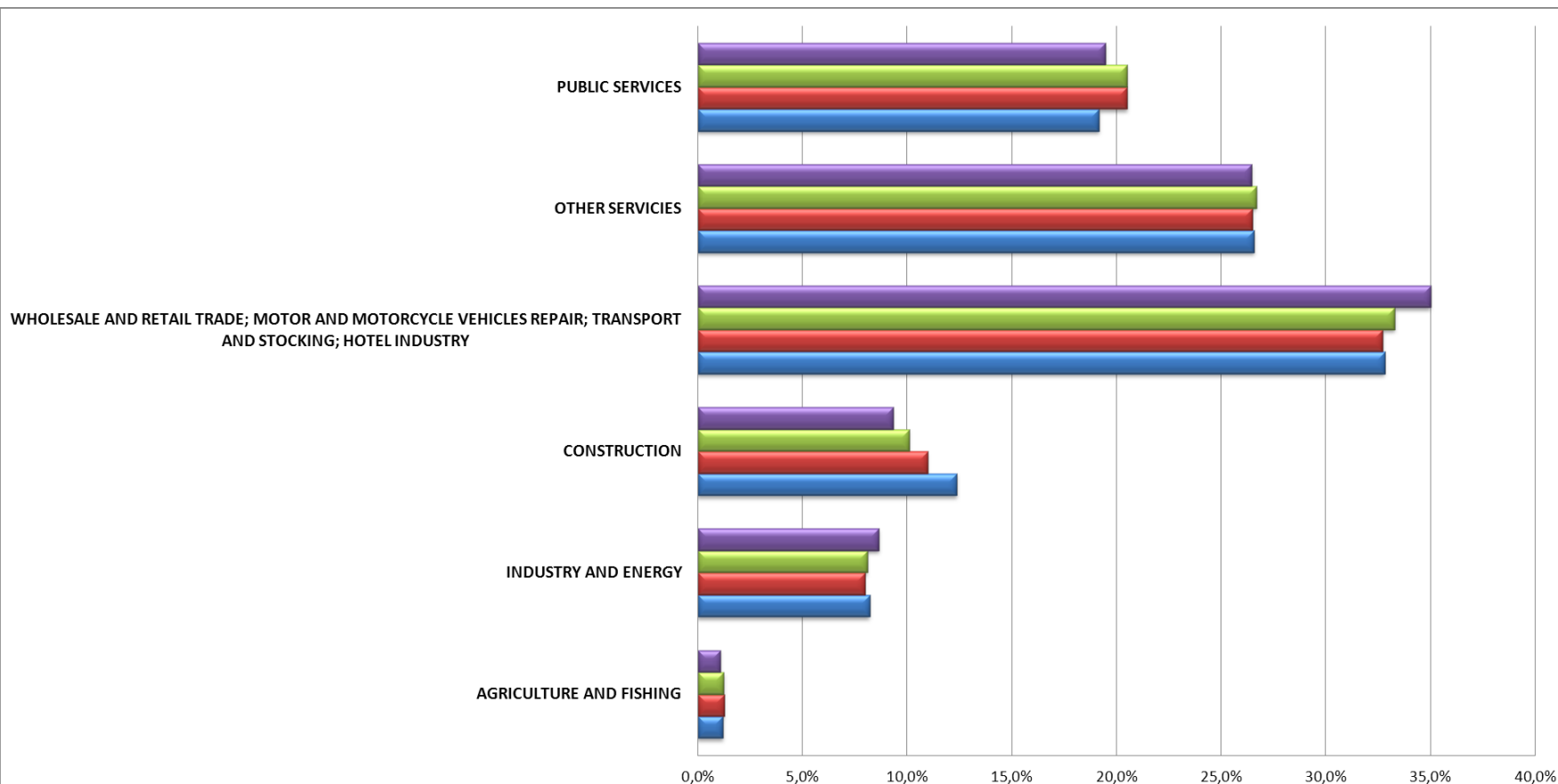
SRA: Spanish regional accounting

SIN: Statistical National Institute

Evolution of GAV by Sectors of Activity



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	AGRICULTURE AND FISHING	INDUSTRY AND ENERGY	CONSTRUCTION	WHOLESALE AND RETAIL TRADE; MOTOR AND MOTORCYCLE VEHICLES REPAIR; TRANSPORT AND STOCKING; HOTEL INDUSTRY	OTHER SERVICES	PUBLIC SERVICES
2011 (1ª E)	1,1%	8,7%	9,3%	35,0%	26,5%	19,5%
2010 (P)	1,2%	8,1%	10,1%	33,3%	26,7%	20,5%
2009 (P)	1,3%	8,0%	11,0%	32,7%	26,5%	20,5%
2008 (P)	1,2%	8,2%	12,4%	32,8%	26,6%	19,2%

In percentages. Regional accounting, Spain. CANARIES.

Main objectives of the Canary Islands' future economic strategy



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- ▶ **Tourism** will continue to be the most important growth factor capable of creating jobs. It has to be competitive, innovative and qualified
- ▶ Both **primary and secondary sectors** should continue to be considered as strategic sectors although their low impact on the economy. Innovation in these sectors is also needed to preserve them
- ▶ **Knowledge economy** has to be fostered, improving the access of public and private funds towards R&D&i projects.
- ▶ A determinant support to **internationalisation** of canarian enterprises is needed

Our Expectations from the Peer-Review Workshop



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- ▶ Achieving several clarifications
 - Boundaries of the RIS3 and its relation with other ex-ante conditions
 - Role of the regions in the partnership contract and deadlines
 - Budget application (Canary Islands): transition region / outermost region
 - Specific ICT chapter in RIS3
- ▶ Development of a shared approach for ORs regarding RIS3
- ▶ Mutual learning
 - Discussion and validation of our process for generating the RIS3 and specifying its dimensions and scope
 - Comparison of methodologies and best practices for achieving consensus and an optimal determination of priorities
 - Comparison of new policies of innovation, aimed at tertiarised Economies based on the service sector and, to be more specific, on tourism and related activities

Our Current Understanding



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- ▶ A new architecture for Cohesion Policy 2014–2020
 - Common Strategic Framework (CSF): Common set of rules for ERDF, ESF & CF + EAFRD & EMFF → An Integrated Approach
 - Specific rules for ERDF, ESF & CF, for TRs & MDRs
 - 40% ERDF – 60% ESF, minimum ERDF (60% R&D&I+competitiv.)
 - Alignment with Europe 2020, in particular as for S3
 - Two out of eleven objectives: R&D&I and ICTs
 - Two out of seven flagship initiatives: Innovation Union & A Digital Agenda for Europe
 - Reinforcing the whole 2020 strategy: smart + sustainable + inclusive growth
 - Ex-ante condition: an integrated smart specialization strategy (S3) for the FIVE FUNDS as concerns to R&D&I and ICTs objectives.
 - New Connecting Europe Facility (40B€+10B€ from CF): transport, energy & ICTs
 - Partnership contracts between EC & MSs (regions?)

R&D in the Canary Islands



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RESEARCH AND DEVELOPMENT (Statistic from I+D 2010)

	Canary Islands	Spain
Internal expense on I+D (over/*GDP)	*Gross domestic product 0,60%	1,40%
Internal expense on I+D (over/per capita)	114,1	316,6

Internal expense execution by sectors:

<i>Companies</i>	19,90%	51,50%
<i>Public. Administration</i>	32,40%	20,10%
<i>Higher education</i>	47,50%	28,30%
<i>**NLPI</i>	0,10%	0,20%

** (Non-lucrative private institutions)

COMPANIES INDICATORS OF I+D (Statistic from I+D 2010)

High and medium-high technology manufacturing companies

<i>Number</i>	7	2.437,00
<i>Expenses on I+D (thousands €)</i>	728	2.447.964,00
<i>Full-time work equivalence personnel</i>	15,9	25.599,30

High technology service companies

<i>Number</i>	68	2.632,00
<i>Expenses on I+D (thousands €)</i>	32.590,00	2.404.054,00
<i>Full-time work equivalence personnel</i>	423,1	32.035,60

COMPANIES INNOVATION INDICATORS (Statistic 2010)

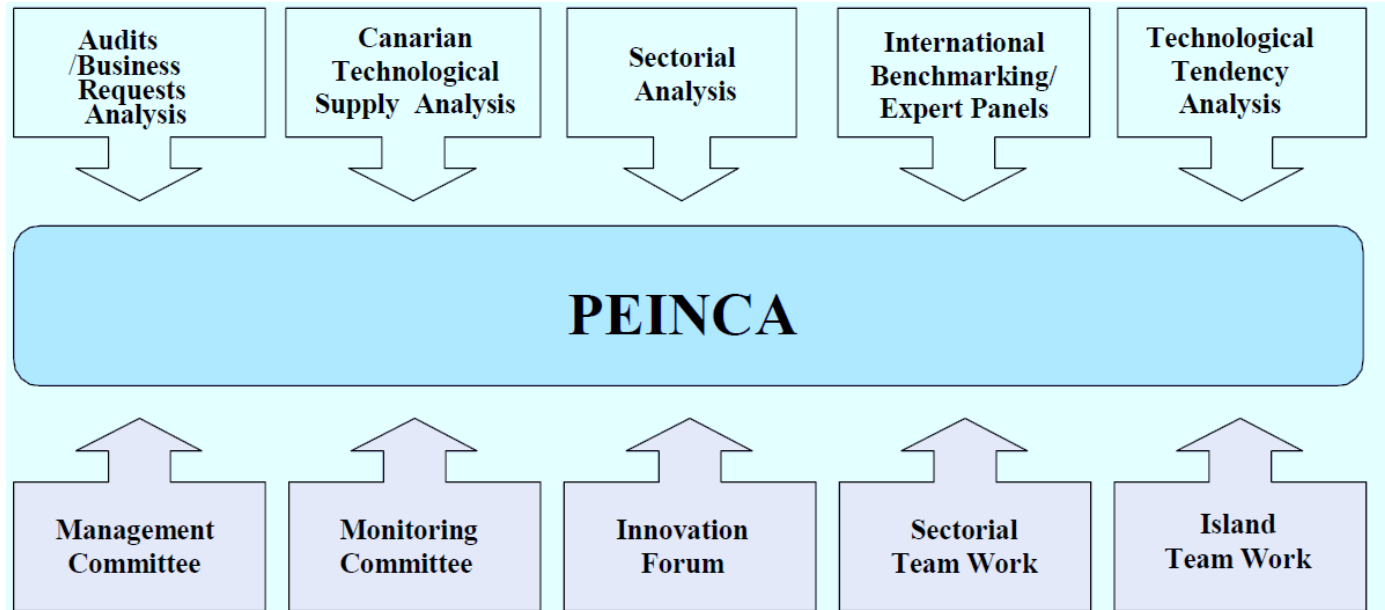
Technologically innovative companies during 2008-2010

<i>Number</i>	1.008	32.041
<i>Percentage</i>	14,20%	18,60%

Features/ Characteristics:

- Limited spending on R&D, mainly in universities, both on economic and human capital.
- Innovation indicators in companies below the national average.

**RITTS -147
(1997-2000)**



Act 5/2001 on Promotion and Development of Scientific Research and Innovation

- First Integrated Plan of R+D+i in the Canary Islands 2003–2006
- Second Canarian Plan of R+D+i+d 2007–2010
- Third Canarian Plan of R+D+i+d 2011–2015

Priority Sectors



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Transverse-Instrumental

- *ICTs*
- *Biotechnologies*



Areas

- *Tourism*
- *Transport and logistics*
- *Natural resources:*
 - *Energy*
 - *Water*
 - *Climate change*
 - *Biodiversity*
- *Educational, social, cultural and economic development*
- *Marine sciences and resources*
- *Biomedicine and health*
- *Astrophysics and space*
- *Agriculture and food*
- *Africa and development cooperation*



Areas

- *Tourism*
- *Astronomy and marine sciences*
- *Health*
- *Sustainability and natural resources*
- *Primary sector: Agriculture and food*
- *Educational, social, cultural and economic development*
- *Other*

Participation



- ▶ The planning and development of the R&D&I Regional Plan 2011-2015 was a collaborative and open process:
 - Meetings with experts, universities, research centres, clusters, companies, chambers of commerce
 - Public consultation
 - Advice and review from several consultative bodies with participation of social, education, trade union and business representatives
 - Approval of the Regional Parliament (pending)

GENERAL AIM:

To tend to a new model of sustainable development based on knowledge, improving in this way the competitiveness of the productive sectors

- ▶ By effectively participating in the:
 - European single market
 - European research area
 - Higher education area
- ▶ By taking effective advantage of opportunities
- ▶ By responding innovatively to challenges
- ▶ By effectively being an outpost of the EU in the world

► Assets

- Geographic location: platform between three continents
- Nature, biodiversity, transparency of the sky, weather
- Internationally renowned tourism sector
- Educational & technological facilities: Two universities European Northern Observatory (IAC), Oceanic Platform (PLOCAN), research centers, new technology parks...
- Fiscal regulation (lower taxation)

► Bottlenecks

- Low integration: internal (islands) and external
- Significant labour force with a low educational level
- High unemployment
- Unbalanced productive structure and consequent inertia
- Extra-costs for essential infrastructures and services (eg. ICT, energy, transport)

Looking beyond Canary Islands' boundaries



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- ▶ The fiction of integration due to territorial discontinuity, hurdles to mobility and additional costs
 - Low participation in national, European and international R&D&I instruments, both public and private (extremely low by enterprises)
 - Low innovative deal flow and private funding
 - The challenge of ICTs
- ▶ National context
 - Mutual learning and collaboration with other regions
 - Balearic Islands pose many similarities
 - Coordination with the central Government must be reinforced
- ▶ European context
 - Mutual learning and collaboration with other ORs, very significantly with the Macaronesian area
 - Participation in many benchmarking EC-funded projects, specially with ORs, insular and other regions facing similar challenges
 - Highly demonstrative pilot projects

Looking beyond Canary Islands' boundaries



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► International context

- The Canary Islands are the EU outpost in north western Africa => Opportunity for both, for example:
 - Rational water and energy management
 - Sustainable agriculture and fishing
 - Health service provisioning
 - Educational and research mentoring
- Development in Africa requires innovative and affordable technologies, an opportunity for exporting enterprises
- Solid relation with other territories, specially in America

► How external knowledge can be harnessed?

- Economically useful innovation requires flows of a different nature (ideas, talent, projects, capital, ...) and constructive competition
- Flows are severely hampered: we need integration!!!

- ▶ Why we in the Canary Islands miss opportunities to exploit, for a knowledge-based economy, the availability of good ideas and innovations?
 - Desalination and water management (1st in Europe)
 - Wind power and other renewable energies
 - Astrophysics technology, biotechnology, etc.
- ▶ The entrepreneurial dynamics is not working properly due to a vicious circle boosted by lack of internal (fragmentation) and external integration (distance) and low critical mass
 - Market failure on the supply side (private funds) and on the demand side (availability of ENOUGH projects to generate attractive project portfolios for dealflow...
 - ...which leads to a lack of cases of success and of a really “competitive soul” in this area, while business efforts have concentrated in “easier” sectors (tourism & construction)

We have to build on top of what we already have

- ▶ Tourism is the main socio-economic engine for regional growth → modernisation & gateway to diversification
- ▶ Increase productivity in existing sectors → modernisation & reorganisation
- ▶ Balance the productive structure by taking advantage of existing assets through novel entrepreneurship:
 1. Education: learning to be entrepreneurial
 2. Raising awareness: motivation
 3. Training and Advice
 4. Funding: subsidies and loans
 5. Creation of the company
 6. Business incubators: one-stop-shop for business
 7. Tutoring: advice
 8. Prizes: recognition
 9. Technology parks: business growth

Entrepreneurial dynamics: Program for innovative actions in tourism



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In order to maintain its international leadership in the touristic sector, the Canary Islands requires a consensus-based integrated approach, based on innovation, which promotes differentiation, efficiency and sustainability

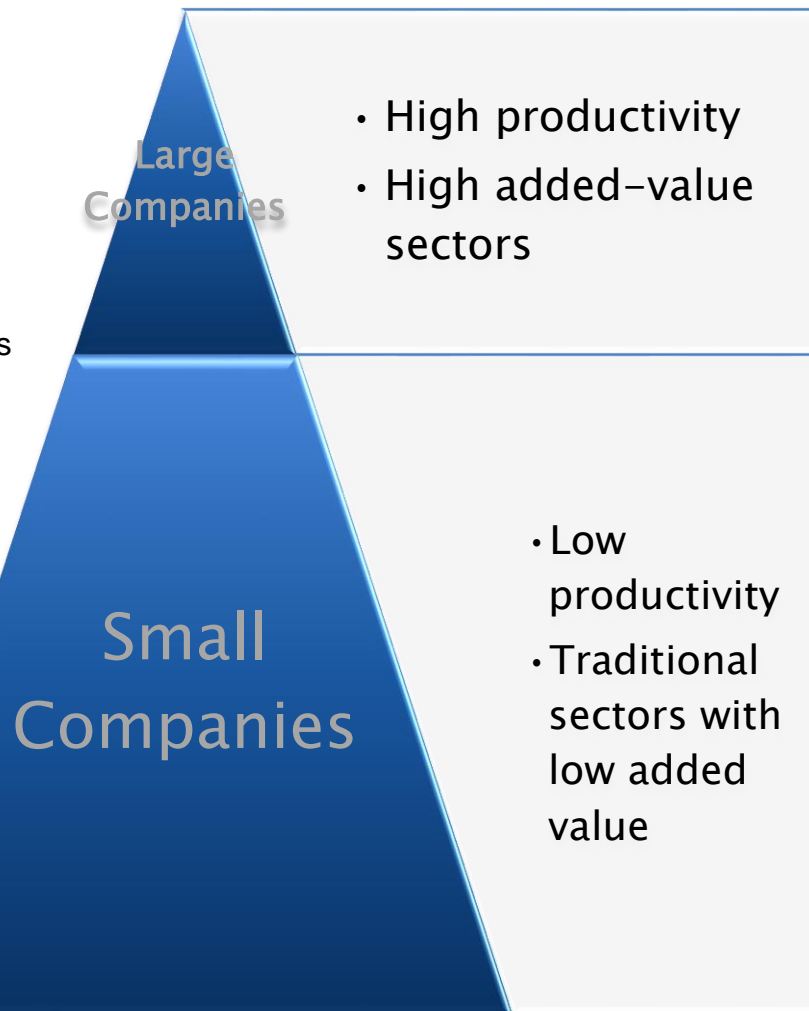
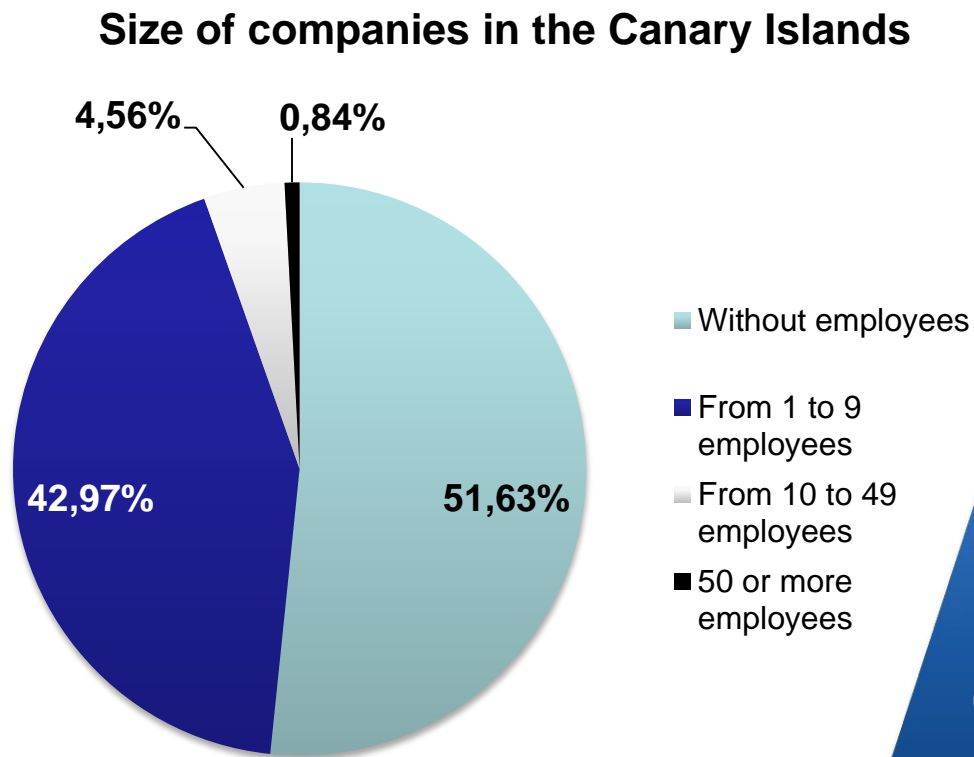
► Main features

- On-going program since 2008, to be updated to RIS3
- Promotion of tourism-focused business clusters
- Dissemination of innovation throughout the sector via distributed centres deployed in collaboration with business organizations
- Training of tourism innovation managers
- Technological modernization for a sustainable tourism
 - Intensive use of ICTs
 - Efficient use of water and energy
- Gateway to diversification (eg. development of ICTs and other technologies for tourism)

Entrepreneurial dynamics: Size and productivity of companies



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PILOT INTEGRAL PROGRAMME OF SUPPORT FOR INNOVATION AND COMPETITIVENESS OF THE CANARIAN SME: INNtentalO (2012–2013)

- Develop actions specifically tailored for each SME typology

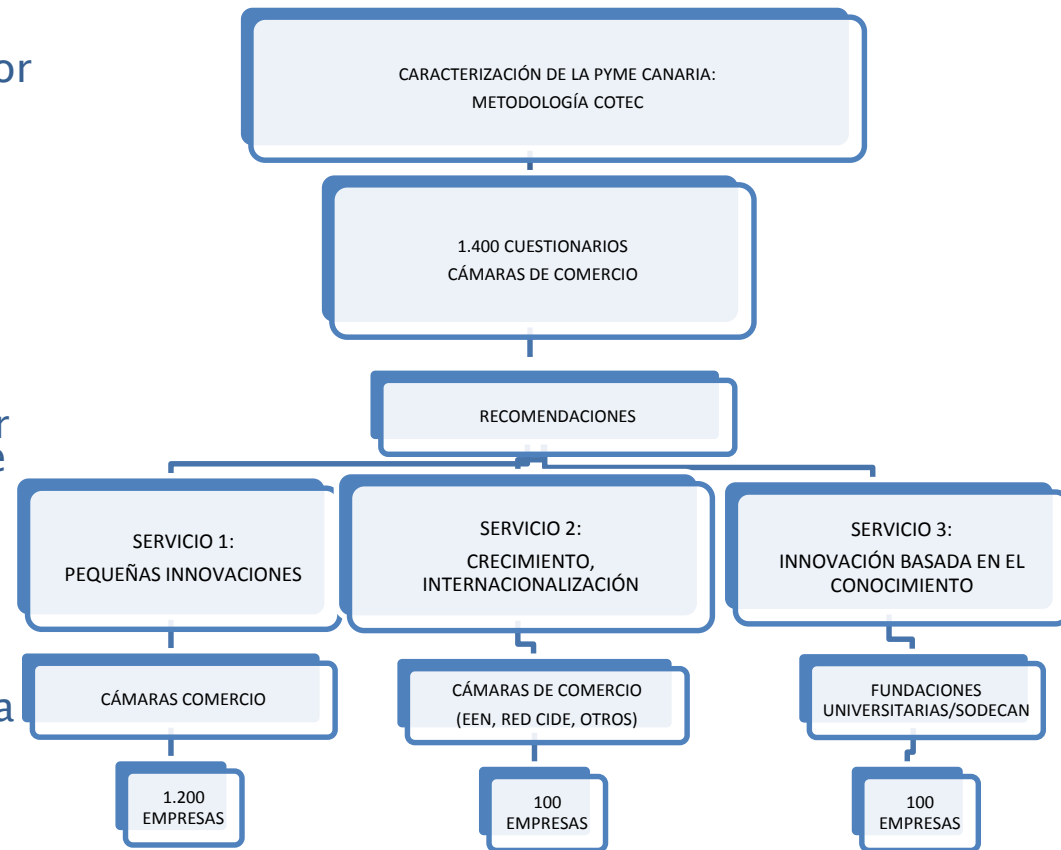
- Goals

- Increase productivity in each existing sector
- Modernisation & internationalisation of SMEs with capacity and will for growth
- Balance sectors by promoting diversification

- Management training programmes for innovation in a wide sense to increase productivity in companies:

- 100 knowledge-based companies
- 100 traditional companies with capacity for growth
- 1,200 SMEs located in rural area

- Partners: Chambers of commerce, universities



- ▶ Market failures
 - Lack of enough mature projects
 - Lack of enough qualified private investors
- ▶ Solutions
 - 1. Specialization in well recognized areas with a competitive advantage:
 - Leading the innovation in tourism
 - Clean Tech (Ocean Strategy)
 - Optics and Astrophysics
 - Biotechnology
 - ICT's
 - 2. Generation of a Pipeline in these areas
 - Specific programs for detecting and training local entrepreneurs
 - Attraction programs for international entrepreneurs
 - Combination of both programs in a business accelerator
 - 3. Progressive dynamization of private investment towards those areas
 - Collaboration and joint venture agreements with well-known national and international qualified investors in each area
 - Implementation, in both provinces, of Investment Forums and Clubs of Investors with public "match" of private investment
 - Public & private Co-investment Instruments

JEREMIE CANARIAS FUND TO PROMOTE THE CREATION, SUPPORT AND FUNDING OF SMES, MICRO-SMES AND ENTREPRENEURS (23M€) – under current implementation

- Specific line of financial micro-credits aimed at the self-employed, entrepreneurs and micro-SMEs
- Reinforcement of the capital and guarantee structure of the Reciprocal Guarantee Companies to supply funding for the growth of SMEs and micro-SMEs
- Lines of co-investment in technological, innovative and environmental SMEs and other sectors which contribute to economic diversification and internationalisation

TECHNOLOGICAL FUND (35M€) – under current implementation

- ▶ Capital instruments for the consolidation of technological SMEs. (€M 5)
 - Aim: promoting private network investors and investment forums in technology based companies
 - Model: public-private co-investment, in a percentage to be defined.
 - Final beneficiaries: technological base business projects in early-stages but with high potential for growth and targeted to global markets
 - Investments: up to € 500,000

- ▶ Debt instruments for technological tractor companies. (€M 30)
 - Aim: enhancing the development of technology based companies through the "contagion" of experiences
 - Model: public-private co-investment, in a percentage to be defined
 - Final beneficiaries: consolidated business projects of technological based companies with a significant scale to become tractors and facilitators of the local economy
 - Investments: between €M 3 and €M 20
 - It will not invest in firms in economical difficulties following Community guidelines on this subject

Technology parks (100M€) – under current implementation:

- ▶ Provide location (office, experimental) and high added value services to knowledge-based enterprises
- ▶ Promote interaction among firms and with universities and research centers
- ▶ Linked to universities and business clusters
- ▶ Preferential access to funding instruments through the technology parks program
 - Fuerteventura: mainly devoted to renewable energies and water management technologies designed for developing countries
 - Gran Canaria: mainly marine science and technology, biotechnology and ICTs
 - Tenerife: mainly biomedicine, ICT and astronomy
 - La Palma: astronomy
 - Integrated in a network with other scientific and technological sites (university campus, observatories, etc)

Critical mass and Priorities: Universities & Scientific facilities



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DE GRAN CANARIA



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SUPERCOMPUTADOR DE CANARIAS
INFRAESTRUCTURA DE SUPERCOMPUTACIÓN
DEL GOBIERNO DE CANARIAS

PLOCAN
consorcio

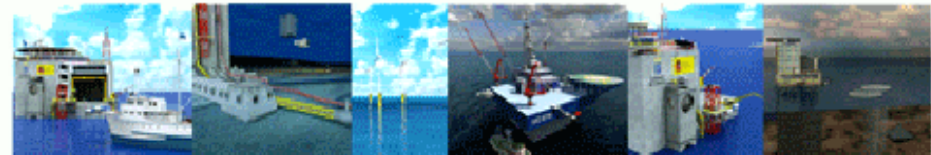
Plataforma Oceánica de Canarias



MINISTERIO
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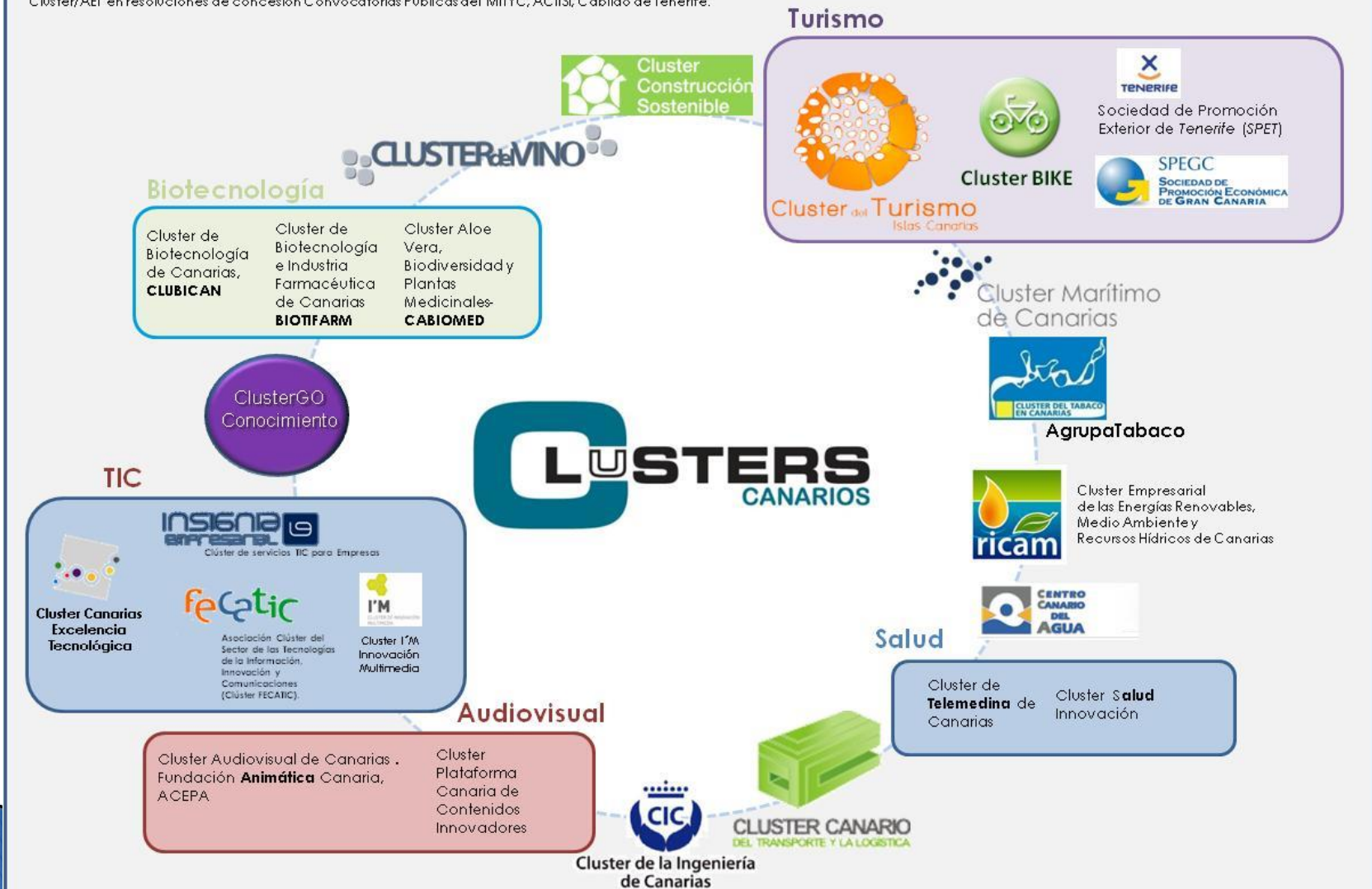
Critical mass and Priorities: Bussiness Clusters



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Cluster/AEI en resoluciones de concesión Convocatorias Públicas del MITYC, ACIISI, Cabildo de Tenerife.



Critical mass and Priorities



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Excellence + differentiation:

Astrophysics, Astronomy and Tourism

- **STRENGTHS:** Canary Islands Astrophysical Institute (R&D Centre, international reference).
- **OPPORTUNITIES:** Potential development in Technology-Based Businesses, technology centre. Astro-tourism.



Marine environment

- **STRENGTHS:** Canarian Oceanic Platform (PLOCAN) + Projects of experimentation with renewable energies in off-shore facilities.
- **OPPORTUNITIES:** State support, demand from the Spanish industrial sector: new opportunity.



Biotech

- **STRENGTHS:** Campus of Excellence; Applied Algology Centre, Canary Islands Technological Institute.
- **OPPORTUNITIES:** Food industry based on biological processes. Support for bio-entrepreneurship with Genoma España. R&D firms with a high technological level on the international scene.



Critical mass and Priorities



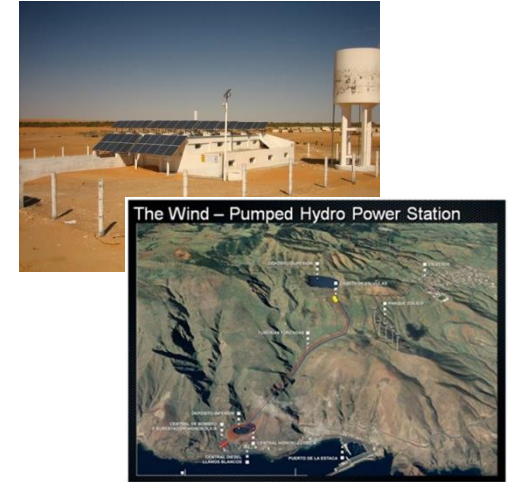
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Excellence + differentiation:

Renewable energies and water – Africa market

- STRENGTHS: Experience in cooperation with third countries, isolated systems, management of water and energy. El Hierro, 100% Renewable Energies.
- OPPORTUNITIES: Fuerteventura Technology Park, micro-networks, living labs, RICAM energy cluster.



Sustainable tourism + ICT

- STRENGTHS: Leading economic sector in the Canary Islands.
- OPPORTUNITIES: ICT centre for tourism in the Canary Islands, logistics and transport, use of clean technologies.

Marine environment

Integrated and sustainable harnessing of deep Ocean

- R+D+i in Offshore Multiuse Platforms including essentially: Energy, Aquaculture, Maritime Transport activities and Tourism activities
- R+D+i in Offshore Ocean Energies
- R+D+i for sustainable exploitation of the seafloor's natural resources
- R+D+i in Offshore Ocean Monitoring and Observation Systems and Technologies

Strengths

- Natural offshore Platform
- Excellent weather conditions for field tests
- Excellent Wind and Wave resources for R+D+i and commercial initiatives
- High and internationally recognised R&D skills and expertise in Marine and Maritime sciences and technologies.
- Easily access to strongly qualified personnel in Engineering and other marine and maritime related sciences.
- Growing Industry of Knowledge and tech based companies in the Marine and Maritime Sector
- High-quality and internationally recognised infrastructures for Oceanic Research and Development
- High-quality and internationally recognised port facilities, skills and capacities

Weaknesses

- Distance to national and international decision-making centres
- Fragmented territory
- Lack of big international companies in the Offshore industry operating in the archipelago.

Opportunities

- Opportunities for growth and economic development set by the European Marine Strategy Framework and the European Marine and Maritime Research Strategy
- Opportunities set by the European Atlantic Strategy
- The lack of space for marine/maritime activities onshore
- The progressive exhaustion of traditional onshore/near-shore sources of minerals, oil and gas
- New emerging knowledge and technologies for increasing the harnessing of deep ocean resources: floating platforms, offshore wind turbines, resource evaluation tools and methodologies, seafloor observatories and sensors....)
- New global markets with no competition
- The economical crisis of traditional industry sectors could foster investment in the knowledge based economy

Threats

- Losing the technological race with other competitor nations
- Cuts in R&D funds and investment due to the global economic crisis
- Cuts in Education/training funds/investment due to the global economic crisis
- Emigration of talented and highly qualified personnel
- International and National Financial uncertainty

Governance & Measuring the progress



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- ▶ Coordination by the Presidency of the Government – Canary Islands Agency for Research, Innovation & Information Society
- ▶ Methodology similar to the R+D+I Regional Program: participative consensus
- ▶ Similar evaluation mechanisms to R+D+I Regional Program:
 - There is a set of high level indicators to measure the outcome of the Plan
 - Additionally, every action of the Plan has a number of indicators to measure its implementation
 - Besides, the Regional IS&T Observatory and the R+D+i Observatory monitor and evaluate the regional situation and compare it at National and European levels
 - ISTAC: Statistical Regional Institute

Next Steps



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- ▶ Set up a team involving the necessary stakeholders for designing the strategy
- ▶ Clarify the scope and dimensions of the RIS3 for the correct development of the strategy
- ▶ Identification of funding sources, definition of the budget
- ▶ Explicitly setting the goals and identifying the bottlenecks, as soon as possible
- ▶ Cross-cutting ICT integrated programme
 - ICT infrastructure
 - ICT use dissemination
 - Opportunities for an ICT sector (eg. related to tourism)
- ▶ Definition of the best way to carry out the actions (focus on results)

THANK YOU!

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