

**IMPLEMENTATION OF A SMART SPECIALIZATION STRATEGY IN SMALL
REGIONS: THE EXPERIENCE OF NAVARRA (2008-2013)**



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NAVARRA, regional overview

- 48th EU Region by income per capita
- Objective 1 region: Competitiveness and Employment, according to Cohesion Policy 2007-2013





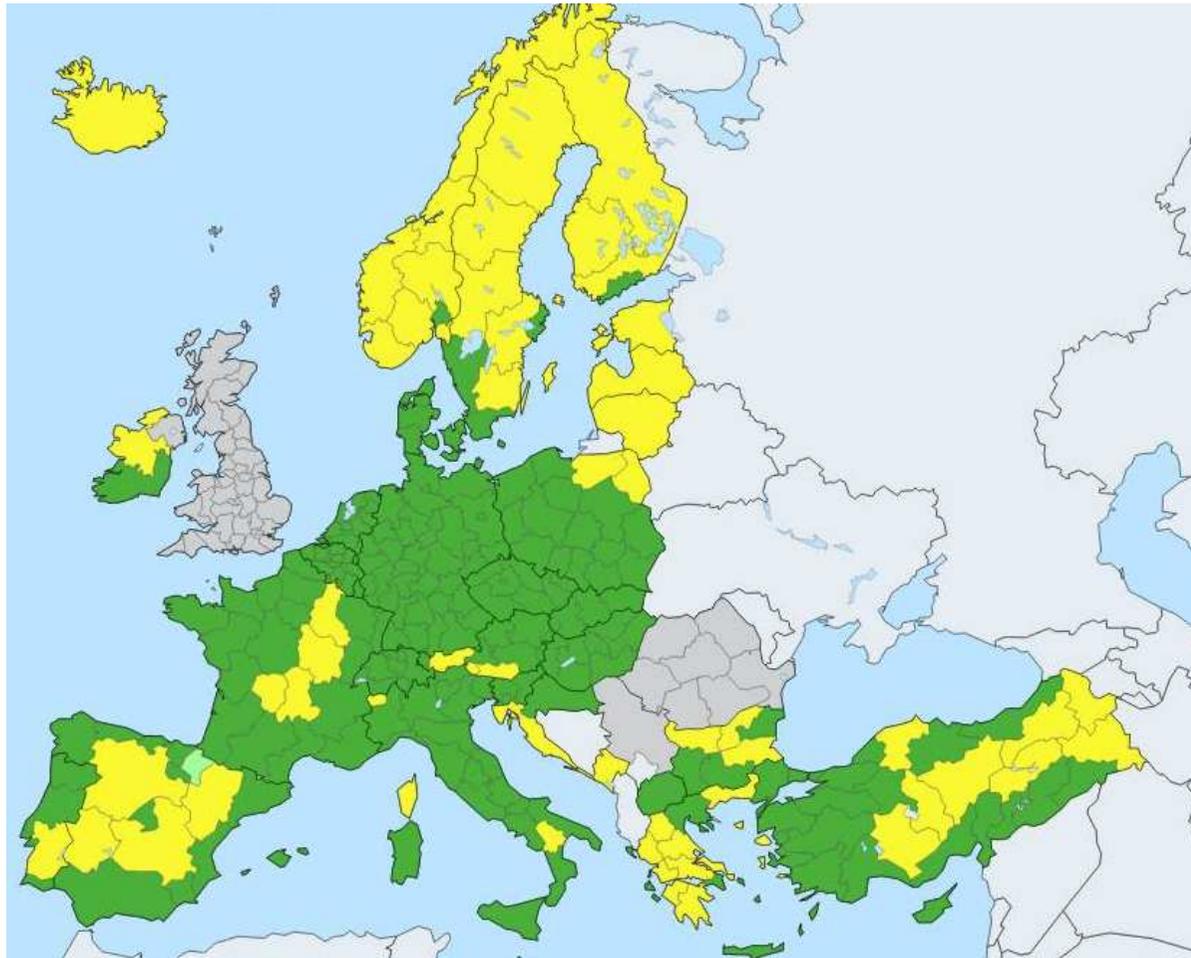
Economic Indicators

Population density by NUTS 2 regions

Inhabitants per km²

Based on a comparison with: Comunidad Foral de Navarra

Source: Eurostat



Lower Than Navarra
Navarra
Higher Than Navarra

Data of Navarra:

Surface: 10.391 km²

Population: 638.948 inhabs (2012)

Population Density (inhabs/km ²)	2012
European Union (UE28)	116,3
Spain	93,2
Navarra	61,8

Source: Eurostat 2010

Top Regions (Max-Min)	2010
Inner London (UK)	9.673,7
Rég. Bruxelles (BE)	6.902
Ciudad Aut. Melilla (ES)	5.466
...	...
Övre Norrland (SW)	3,3
Ísland	3,2
Guyane (FR)	2,8



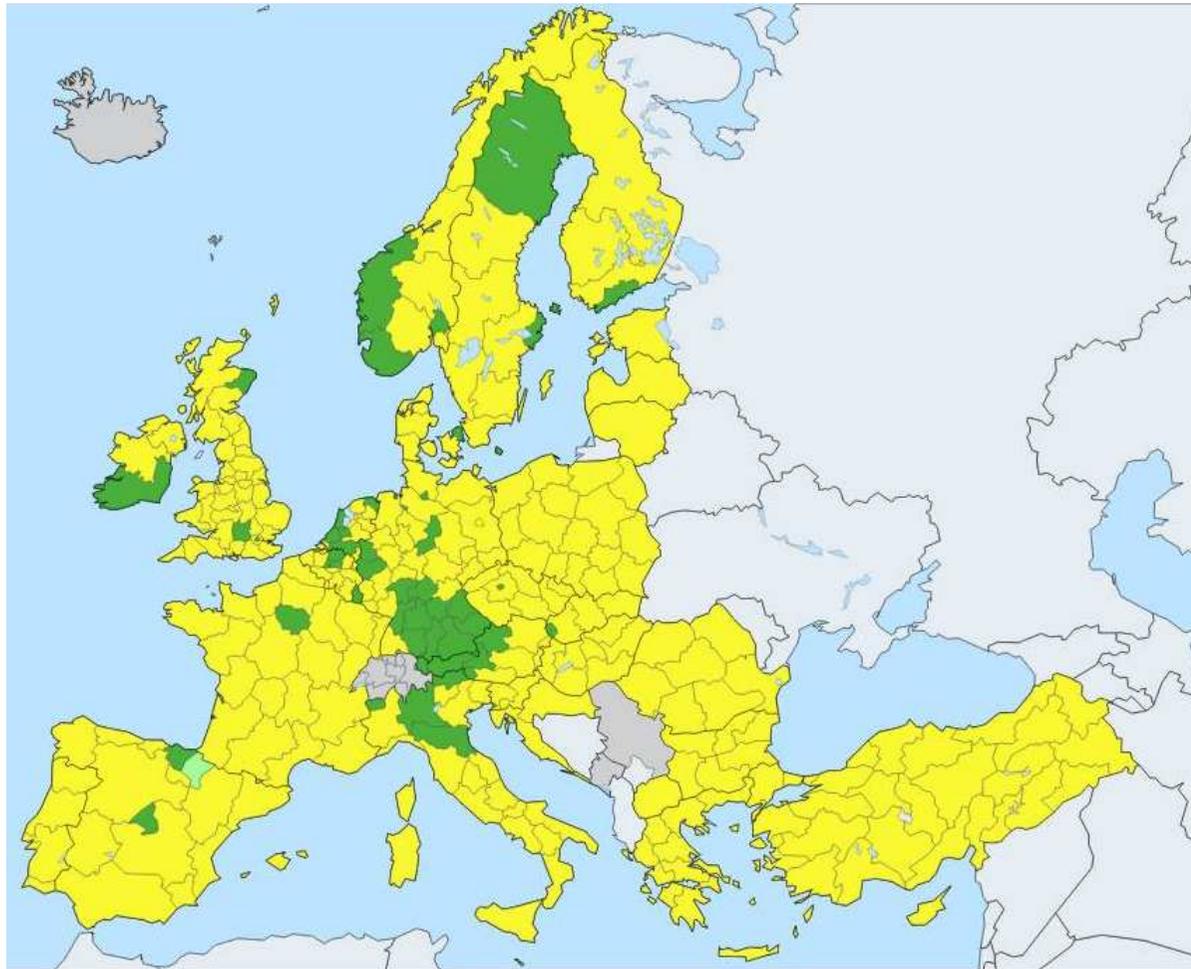


Economic Indicators

Regional gross domestic product (PPS per inhabitant) by NUTS 2 regions 2011

Based on a comparison with: Comunidad Foral de Navarra

Source: Eurostat



 Lower Than Navarra
 Navarra
 Higher Than Navarra

GDP (PPS) per Inhab. (Euros)	2011
European Union (UE28)	25.100
Spain	22.700
Navarra	31.100
GDP (PPS) per Inhab. (%UE28)	2011
European Union (UE28)	100%
Spain	90.4%
Navarra	121.5%

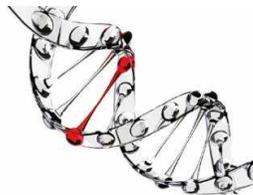
GDP (PPS) per Inhab. (# over 272 regions)	2011
Inner London (UK)	1 (320%)
Luxembourg (LU)	2 (266%)
Bruxelles-Cap. (BE)	3 (221%)
...	...
Braunschweig (DE)	47 (121%)
Navarra (ES)	48 (121%)
Zeeland (NL)	49 (123%)





Economic Indicators

GDP per Branches (2011)	Agriculture	Industry	Construction	Services
European Union (UE27)	1,7 %	19,5 %	6,3 %	72,5 %
Spain	2,6 %	16,9 %	11,5 %	68,9 %
Navarra	2,9 %	28,6 %	9,2 %	59,2 %

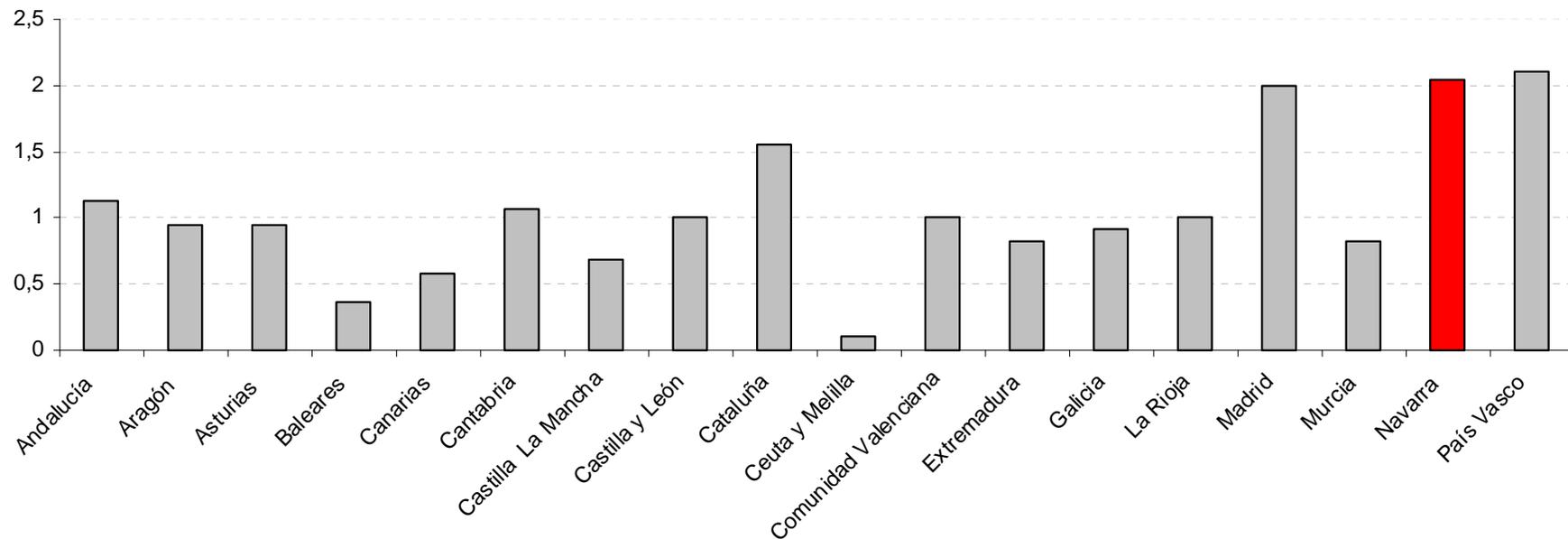


Transport and Automotive Manufacturing	4,9 %
Electric, electronic and optical equipment	4,1%
Metallurgical industry	4,0 %
Agrofood industry	3,7%
Machinery	3,0 %
...	...



Source: Eurostat 2011 and INE 2011

High investment in R+D and innovation 2012 (2,03%)



- People engaged in R+D activities tripled in 11 years (from 2.063 to 5.221)

- 2/3 of R+D is private



What is MODERNA?





Participation in the Plan (inclusive)

+ More than 5.000 people have been involved in designing MODERNA





What Objectives is MODERNA proposing for the future?



GDP PER CAPITA

To position Navarra amongst the 20 leading European regions in GDP per capita and with a fair distribution of wealth.

To achieve this, each MODERNA cluster is firmly committed to increased productivity, employment and international competitiveness, through technological improvements, the development of human capital and ventures into new, high productivity sectors.



HUMAN DEVELOPMENT

To position Navarra amongst the 10 leading European regions in the Human Development Index (HDI).

High quality health care and an excellent education system are two key strengths of Navarra. In order to maintain and enhance these areas, the MODERNA plan is to channel the generation of wealth towards quality of life and to promote human development from all the clusters and, specifically, from the sectoral commitments to Education, Talent and Human Capital and the Health Care Services.



ENVIRONMENTAL SUSTAINABILITY

To position Navarra amongst the 20 leading European regions in sustainability.

All the MODERNA clusters are constantly focussed on the sustainability of the economy and the conservation of the environment for the future generations in Navarra. Furthermore, efforts are concentrated on inherently eco-friendly sectors and activities (renewable energies, sustainable vehicles, agro-food industries, sustainable construction, environment and waste, and sustainable tourism).

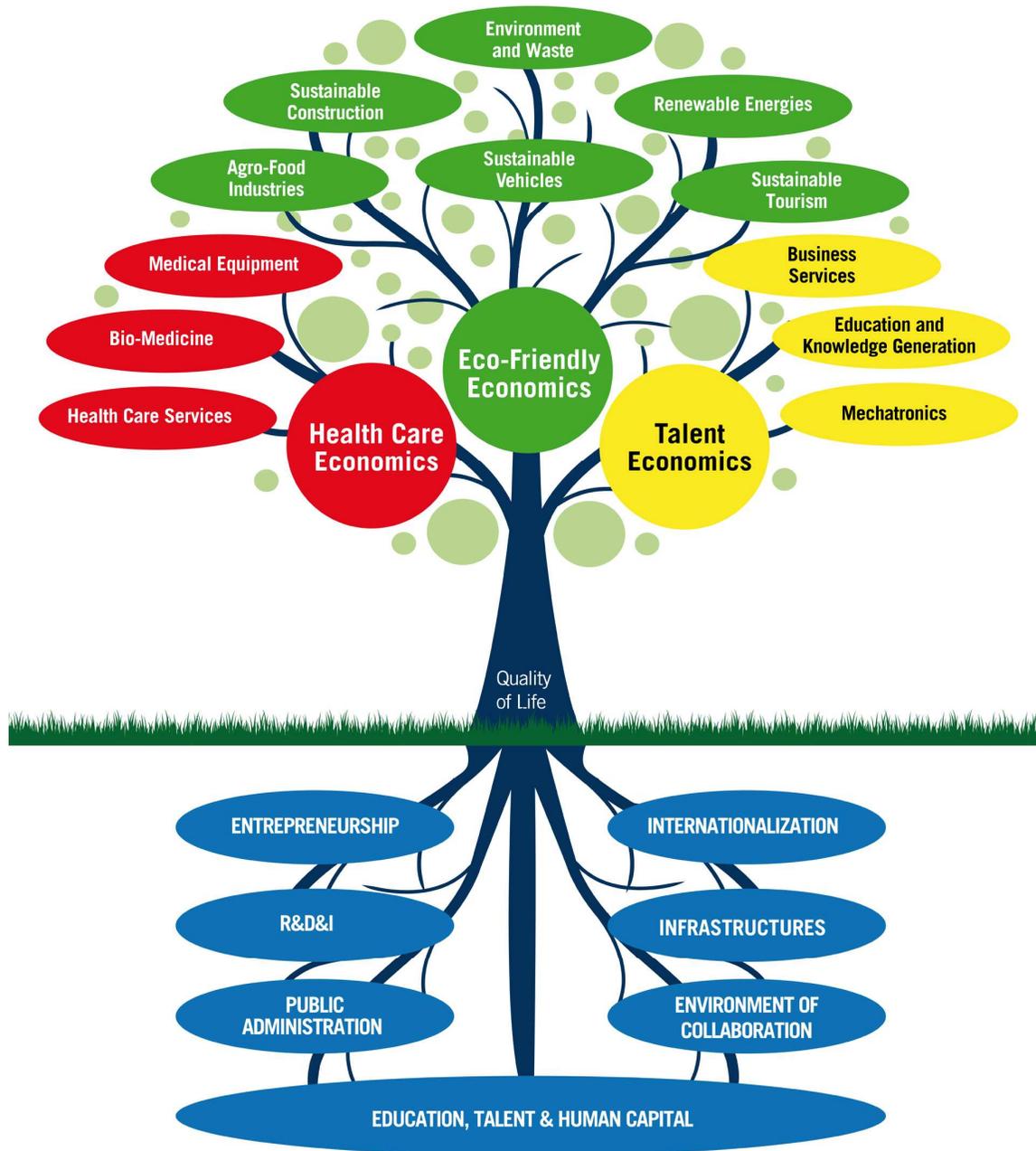




Indicators

CHALLENGES	CONCEPT	TODAY	2030
EDUCATION	EDUCATION LEVEL OF EDUCATIONAL ACHIEVEMENT (PISA points)	502	550
	LEVEL OF ENGLISH (young people aged 18 with B2 level)	7%	90%
	LEVEL OF HIGHER EDUCATION (% university graduates)	36%	55%
INNOVATION	INVESTMENT IN R&D (% over GDP)	1,92%	4%
	TOTAL PATENTS (applications/year)	172	844
	REGIONAL INDEX FOR INNOVATION (Europe regions posit)	76	35
GLOBALISATION	EXPORTS (millions of euros)	5.450	10.000
	EXPORTING COMPANIES (Nr)	711	2.000
	INTERNATIONAL COMPANIES (Nr)	133	200
ECONOMY	EMPLOYMENT (people in work)	284.000	365.000
	PRODUCTIVITY (euros per worker)	61.000	85.000
	COMPANY SIZE (% companies > 50 workers)	1,30%	2,5%
	NUMBER OF NEW COMPANIES (Nr/year)	943	1.600





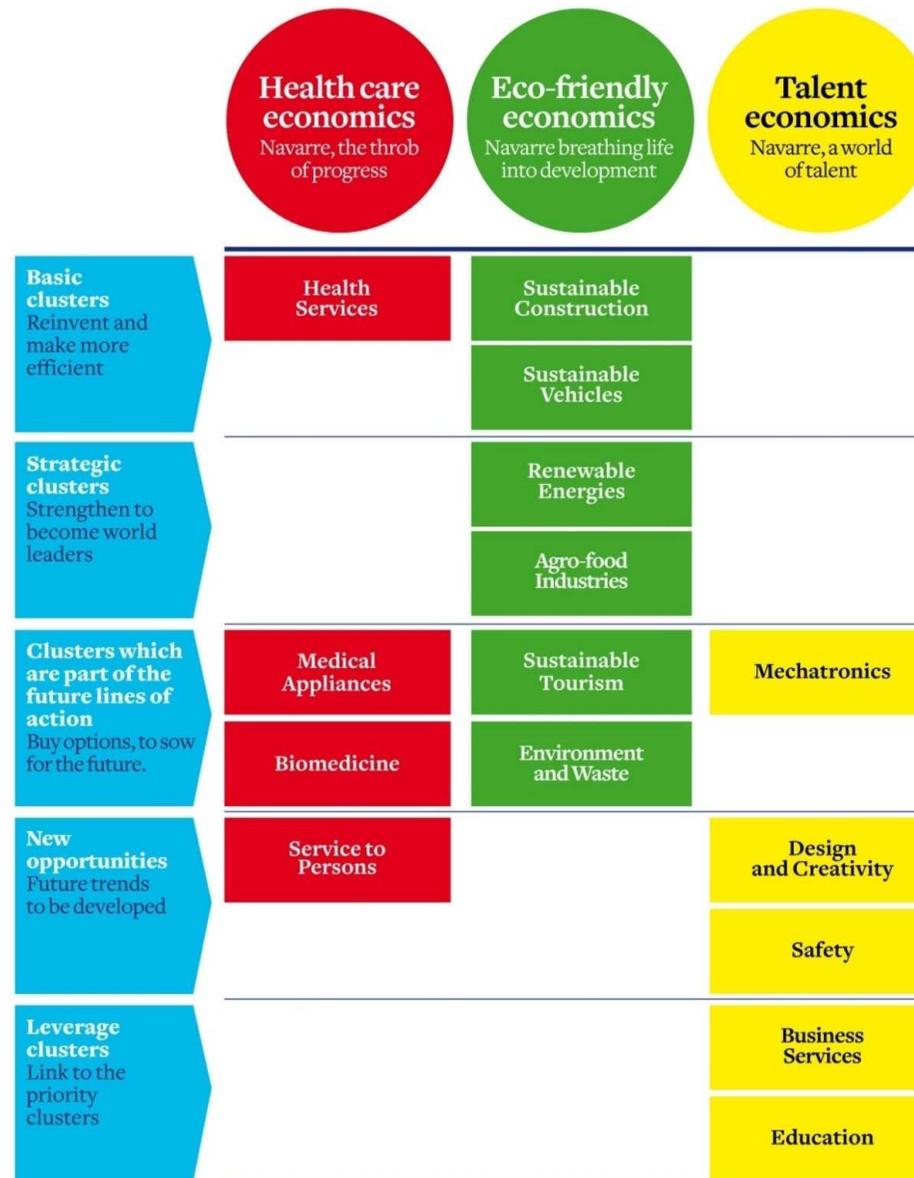
Strategic Business Sectors

THE NEW ECONOMIC MODEL OF MODERNA DEVELOPMENT FOR NAVARRA TREE

Transversal factors of Competitiveness

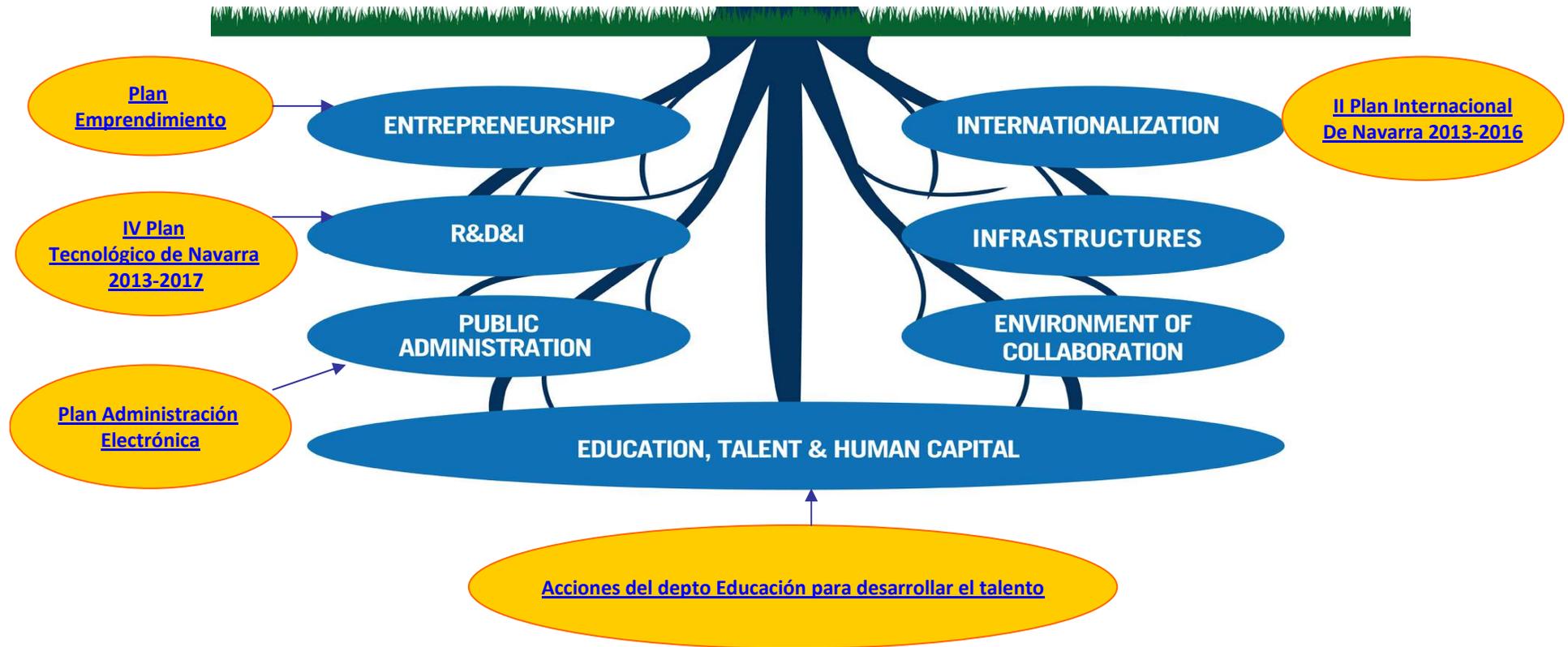


The Strategic Commitments adopted by MODERNA



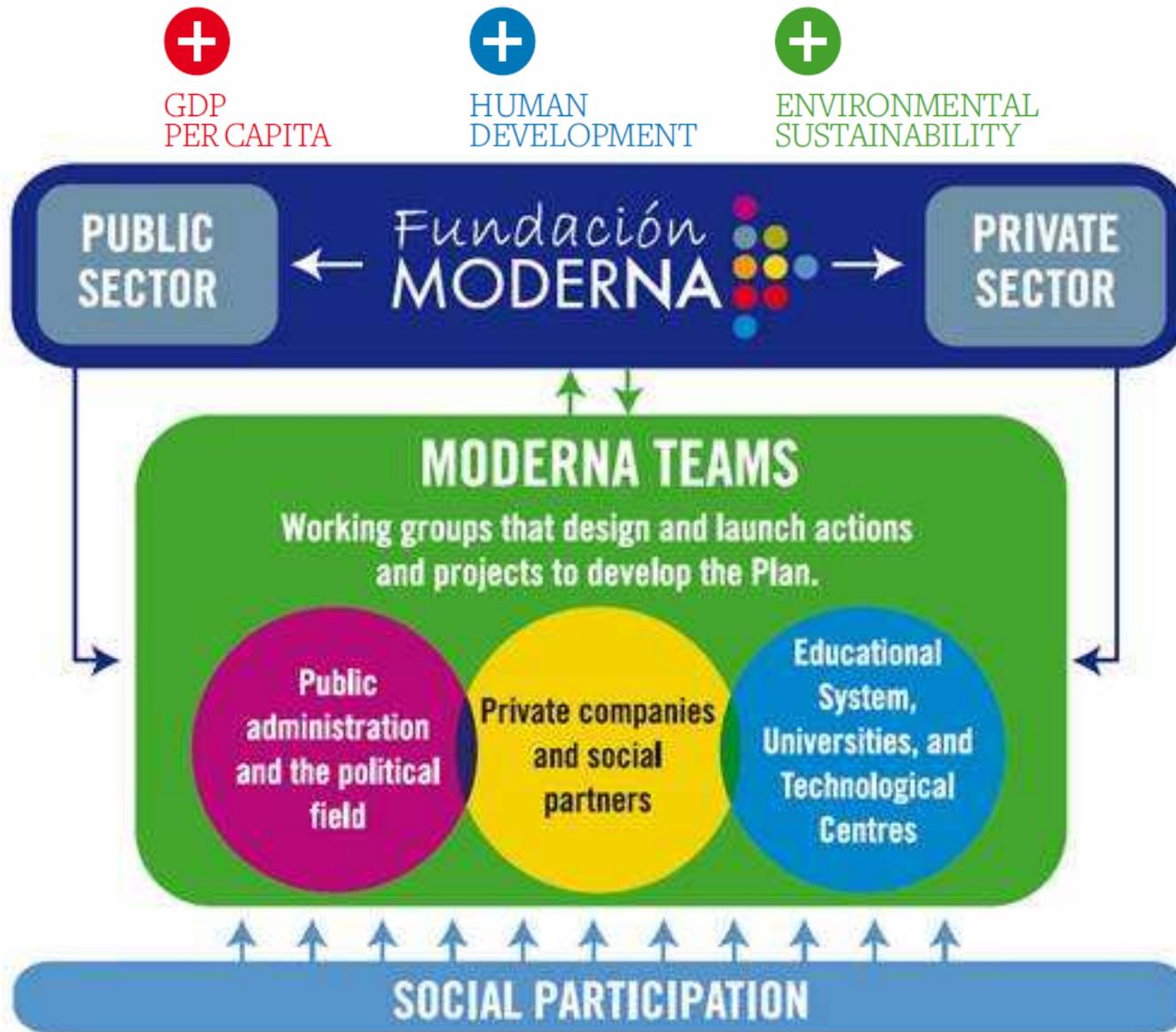


MODERNA Plan, the plan of PLANS





MODERNA FOUNDATION WORKING PROCESS

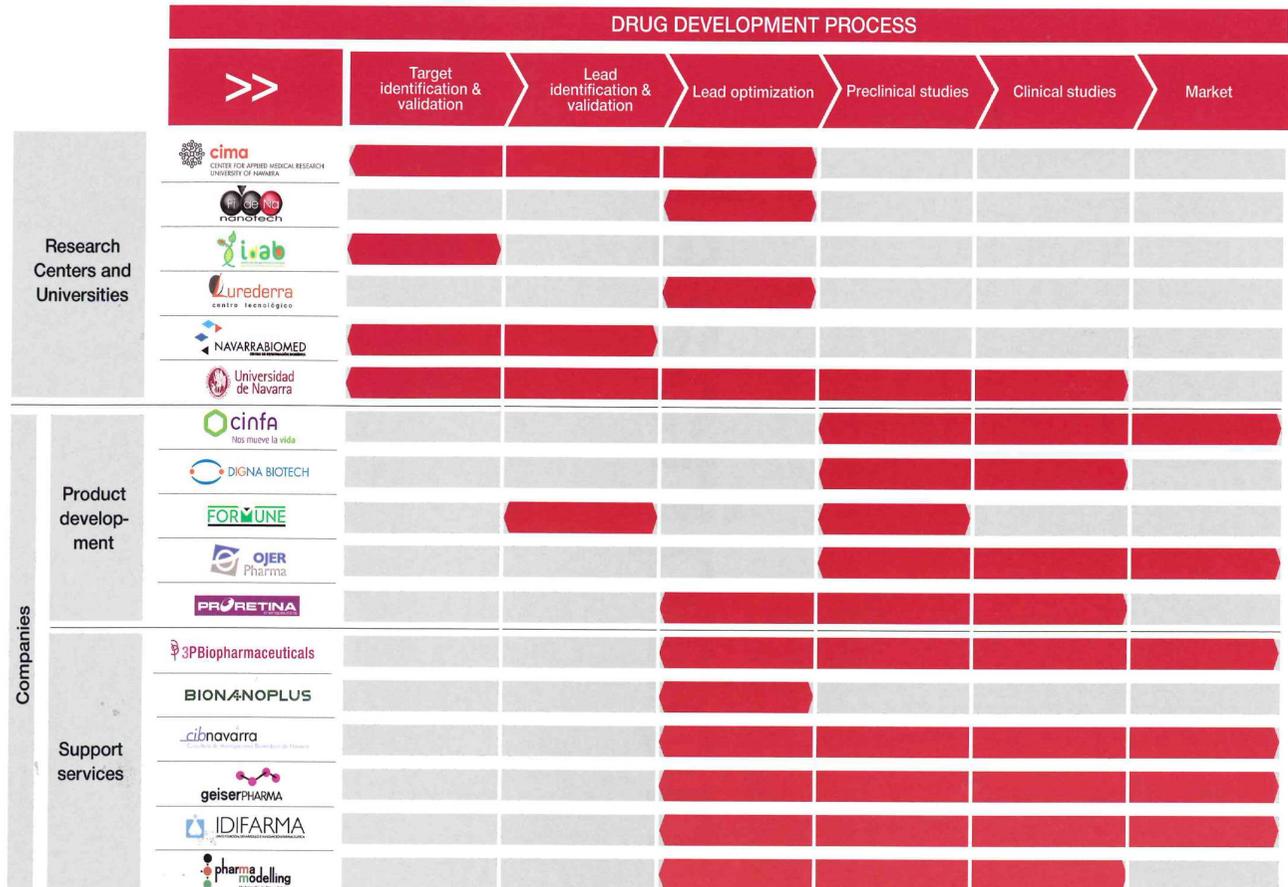




BIOMEDICINE IN NAVARRA

Map of the Biomedical sector

Thanks to a tight networked activity, the Biomedical industrial and academia institutions in Navarra collaborate in each phase in the development of pharmaceutical products, from the bench to the bedside.



BIOMEDICINE IN NAVARRA

Industry and academia collaborate in each step from the bench to the bedside to jointly consolidate the Biomedical sector in Navarra.

DISCOVER ITS KEY PLAYERS AND THEIR CORE CAPABILITIES.



Sharing Facilities



MODERNA Sharing Facilities



More than 80 Sharing Facilities and Equipment (including laboratories, Biobanks, research equipment such as chromatographs, spectrometers, radioactivity facilities...)

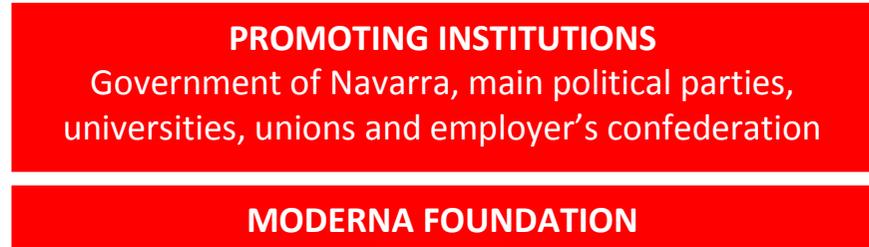
TIP	DENOMINACIÓN	PALABRAS CLAVE	DESCRIPCIÓN	CARACTERÍSTICAS/ CAPACIDADES	USOS Y APLICACIONES
5	Equipa	AKTA EXPLORER	FPLC, captura, purificación, polishing, IMAC, AEC, HIC, empaquetada de columna, evaluación del empaquetado, flujo de 25mL/min, multianda.	Flujo rate range 0.01-100ml/min Pressure range 0-10 MPa Pressure limits programmable upper and lower limit Wavelength range 190-700 nm, 3 wavelength simultaneously Conductivity range 18.5µm-999.9µm/cm System fluid rate	Equipa de cromatografía para la purificación de proteínas a anticuerpos a pequeña escala. Flujo de trabajo bajo y gran versatilidad para la inyección, lavado y elución de las muestras. Paribilidad de trabajar con columna preempaquetada o columna empaquetada con el sistema Unicorn 6 integrado en el equipo.
6	CMDO	AKTA PILOT	FPLC, captura, purificación, polishing, IMAC, AEC, HIC, empaquetada de columna, evaluación del empaquetado, flujo de 400mL/min, multianda.	Isocratic and gradient flow 4-400 ml/min double mode Up to 300 ml/min Operating pressure Up to 2 MPa (20 bar, 290 psi)	Equipa de cromatografía para la purificación de proteínas a anticuerpos a mediana escala. Flujo de trabajo relativamente elevado y gran versatilidad para la inyección, lavado y elución de las muestras. Paribilidad de trabajar con columna preempaquetada o columna empaquetada con el sistema Unicorn 6 integrado en el equipo.
7	Equipa	AKTA READY	FPLC, captura, purificación, polishing, IMAC, AEC, HIC, empaquetada de columna, evaluación del empaquetado, cualificación, flujo de 510L/h, monoanda.	Pressure 0 - 5 bar qe 0.20 bar q Flow (high flow kit) 2 7.5-510 l/h ±5% actual value at flow > 40 l/h 3 Flow (low flow kit) 2 3-175 l/h ±5% actual value at flow > 20 l/h 3 Conductivity 0-150 mS/cm ±5% full scale 5	Equipa de cromatografía en sistema de flujo de trabajo elevado y gran versatilidad para la inyección, lavado y elución de las muestras. Paribilidad de trabajar con columna preempaquetada o columna empaquetada con el sistema Unicorn 6 integrado en el equipo.
8	Servicio	Animalaria	Animalaria, ratones, experimentación animal,	Capacidad para 28 grupos de ratones, hasta 10 animales por grupo. 2 cabinas de flujo laminar (una de requerida biológica BIO IIA) para manipulación de animales y muestras.	Experimentación con ratones para ortomicroanálisis de nivel de
9	Plataforma	Área de fabricación de API a partir de células de mamífero	Células de mamífero, GMP, sala clarificada B (ISO 5), Bioreactor, purificación, API, Anticuerpo	Salar GMP. 1140m2 certificado por la EMA. Bioreactores 50L, 200L y 2x200L (ring-ure). Equipar de purificación Akta, Pilot y Ready.	Fabricación de productos biológicos (para pre-clínica, fase clínica y fase de API) y producto final para ensayos clínicos.
10	Plataforma	Área de fabricación de API a partir de células procariontas	Células procariontas, GMP, área de fabricación, sala clarificada B (ISO 5), Fermentador, purificación, API	Salar GMP. 1140m2 certificado por la EMA. Fermentadores 10L, 100L y 1000L. Equipar de purificación Akta, Pilot y Ready.	Fabricación de productos biológicos (para pre-clínica, fase clínica y fase de API) y producto final para ensayos clínicos.
11	Plataforma	Área I+D desarrollo de bioprocesos	Sistema de expresión. Fermentación. USP. Purificación. DSP. Desarrollo de métodos analíticos. Desarrollo de formulación. Optimización de procesos productivos. Transferencia de Tecnología, Transferencia de Procesos	Área equipada con sala cultivar procariontas (fermentadores 2L y 10L), procariontas (bioreactores 2L), purificación y desarrollo analítico	Desarrollo de procesos de fabricación (proteínas, anticuerpos, etc) para pruebas clínicas. Caracterización de productos biológicos.
12	Equipa	Bañero de dilución Satex ATT Smart	Bañero	Fermentadores, Bioreactores, Akta Explorer, Sartoflow, HPLC analítica, etc	2 equipos conectados a ultravioleta. 2 eq de fraccionar



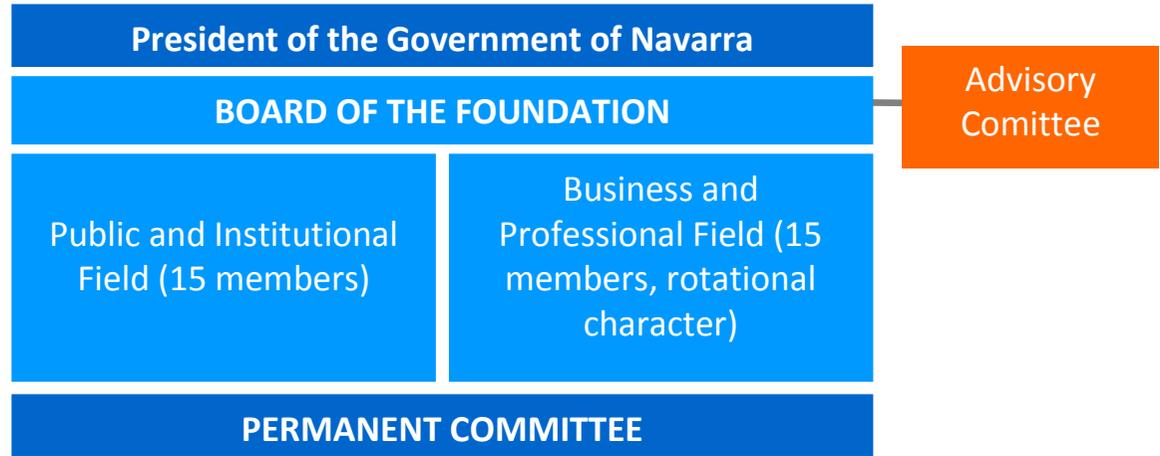


ORGANIZATIONAL STRUCTURE – MODERNA Foundation

Constitution of the Foundation



Institutional and Strategic Sphere



Management of the Foundation





What does Fundación MODERNA offer?

- 1) Strategic focus on the long term challenges
- 2) An Stable System of Cooperation between Public and Private Economic Actors
- 3) Business Friendly Government
 - One-Stop Company Services
 - High level of autonomy
- 4) Cluster-organized economy:
 - Think Tank actions to design a “tailor made” business environment
 - Cooperative projects in benefit of the whole cluster
 - Guarantee specialized Human Resources
- 5) Special Finance Toolkit for MODERNA Projects



Financial Support for Business

Entrepreneur MODERNA grant:
Managed by CEIN.
-76 grants



BEI-MODERNA credit line:
250 M€ from the European Investment Bank for the advantaged financing of “MODERNA Businesses”



MODERNA Investors forum:
10 forums: 250 analyzed projects; 46 projects presented to the Forum; 150 participants. 10 reached agreements. Total financing amount: 1.7M€



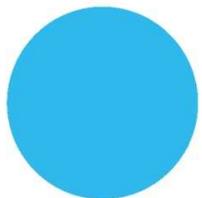
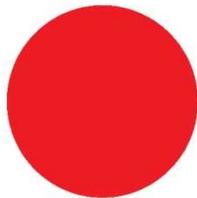
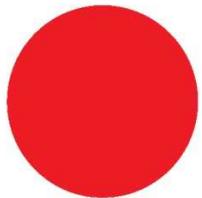
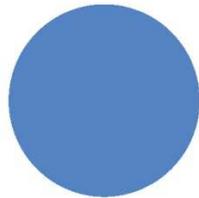
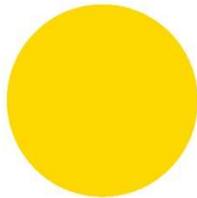
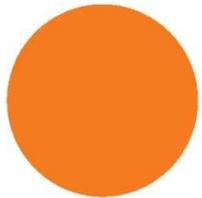
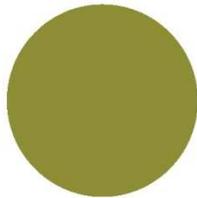
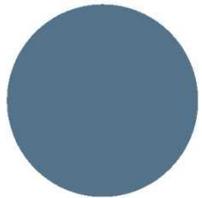
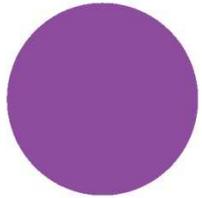
MODERNA co-investment found:
Mechanisms of co-investment involving public and private investors. Objective: attraction of external funding.

MODERNA bank guarantee for business financing:
Public complement for funding projects



**NAVARRA
GROWS WITH**

MODEL OF ECONOMIC
MODERNA
DEVELOPMENT FOR NAVARRE



Thank you for your attention

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