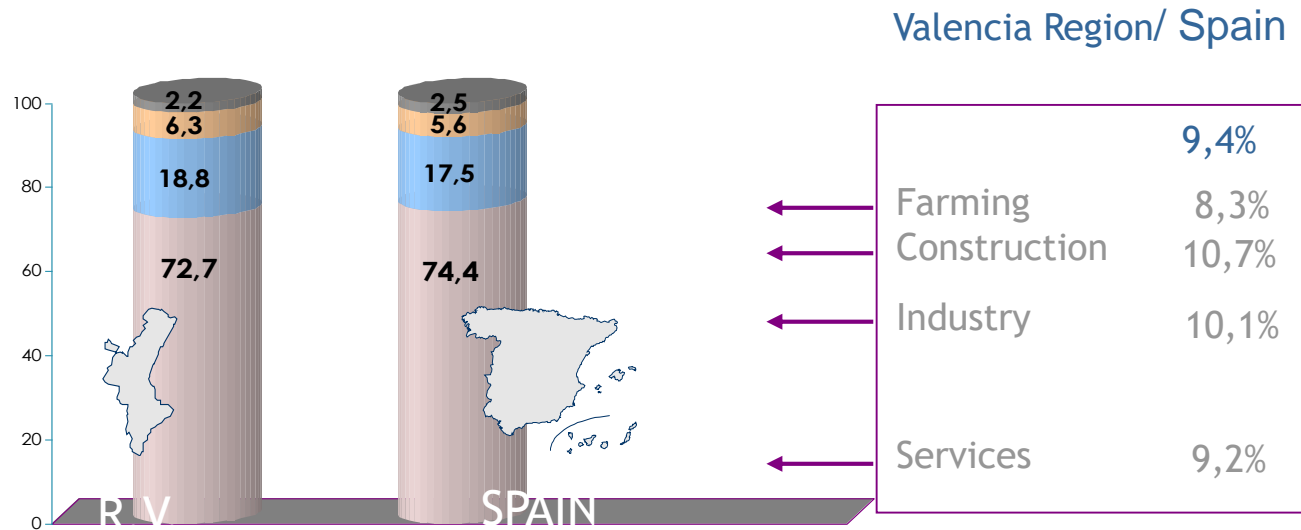


The basis of the Valencian Strategy in Bioeconomy

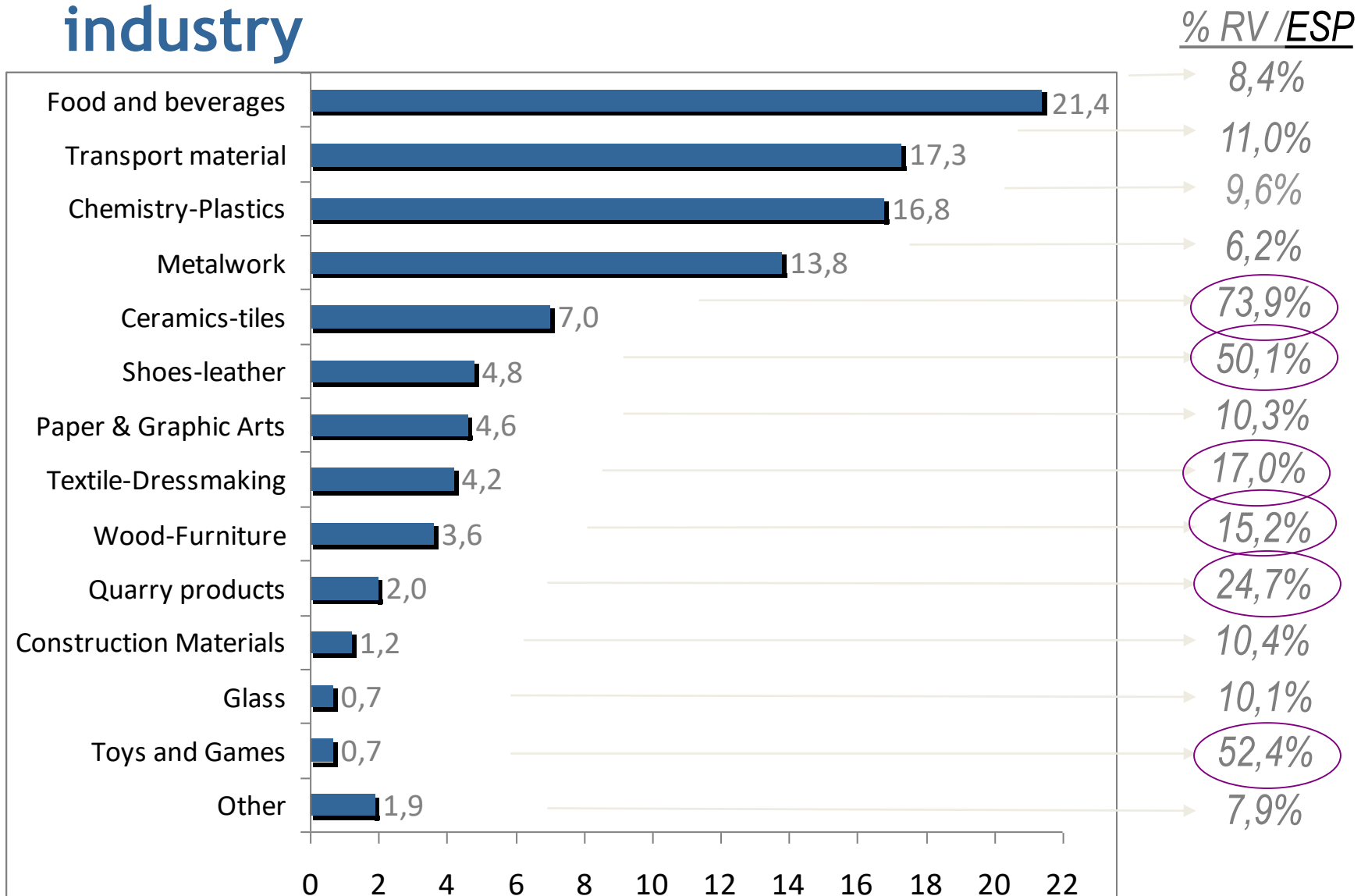
Key figures of the Agriculture, Livestock Fisheries, Forestry and Agri-food Sectors in Comunitat Valenciana

Overall picture

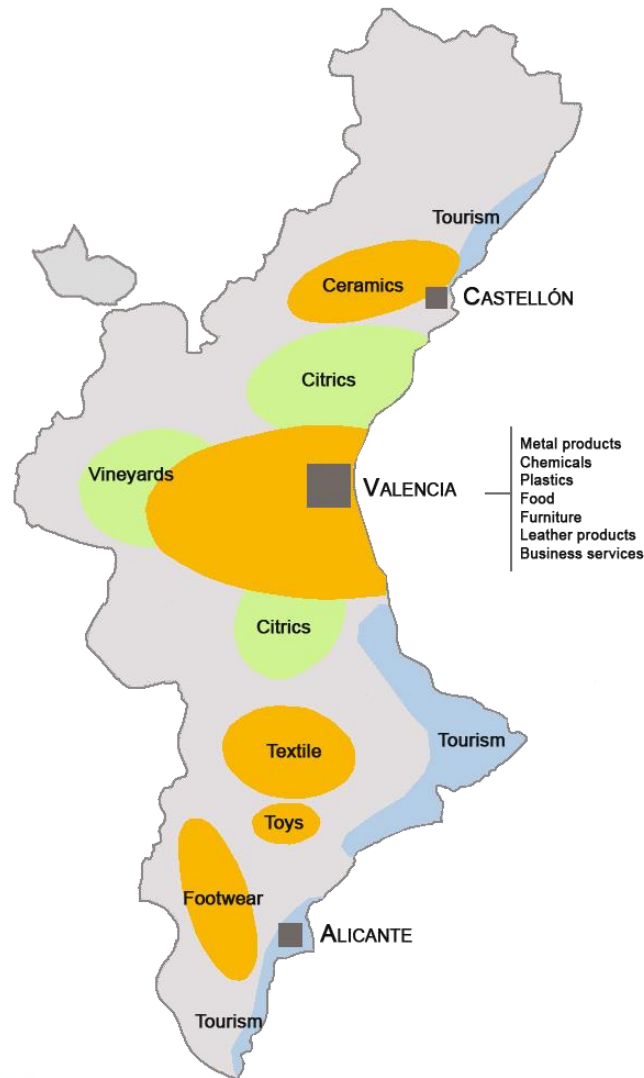


The agriculture, food, manufacturing, automotive and Chemicals and Pharmaceuticals sectors make up over 50% of the Regional industrial GDP.

Consumer goods sectors characterize our industry



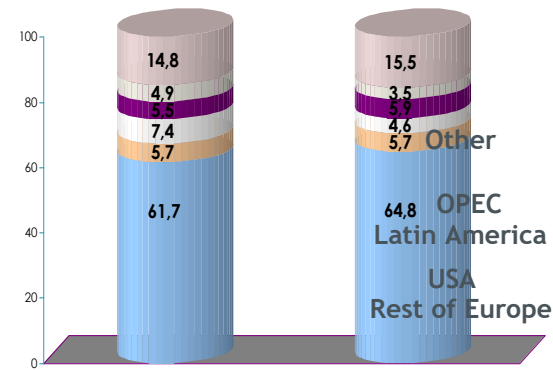
Very competitive industrial clusters



Export-oriented economy

“Valencian export exceeded 28,500 M€ (26% of GDP)”

Products	Milions €	% 14/15
Transport material	7.017	47
Fruits	3.163	14
Ceramics- Tiles	2.492	6
Mecanical machinery	1.980	11
Shoes	1.622	17
Mineral product	998	2
Plastics & rubber	996	16
Legums, vegetables	768	11
Fuel	671	-31
Electrical material	651	23
Wood Furniture/ lights	582	8
Food processing industry	414	5



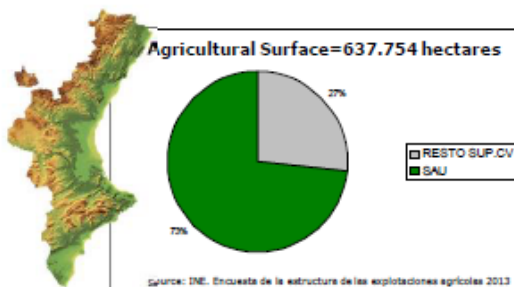
E.U.



The agri-food sector

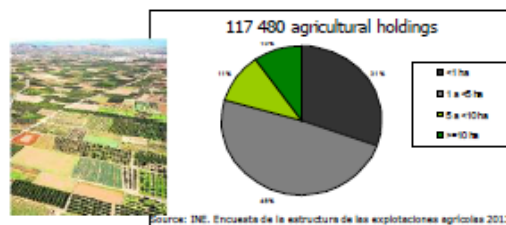
Land use (73 %)

Agricultural Surface=637.754 hectares



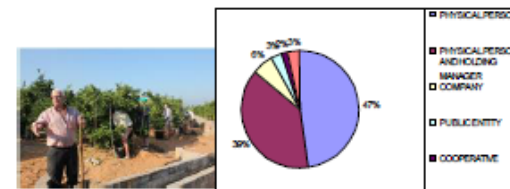
Agricultural holdings. Number and size

- 80% of holdings smaller than 5 ha



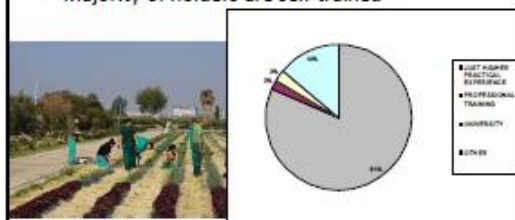
Legal nature of holders

- 86 % physical persons



Education and training

- Majority of holders are self-trained

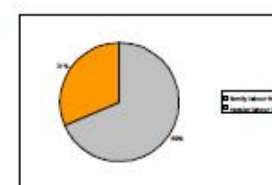


Origin of labour force

- Family farming



Family labour force	43 568
Regular labour force	19 926
TOTAL Labour Force Units	63 494

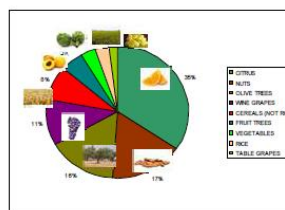


The Agri-food sector

Major crops

- Major part of surface dedicated to tree crops and vineyards

SURFACE (ha)	
CITRUS	161.193
NUTS	73.781
OLIVE TREES	74.884
VINE GRAPES	61.434
CEREALS (EXC. RICE)	29.184
FRUIT TREES	26.822
VEGETABLES	16.701
RICE	14.833
TABLE GRAPES	9.769

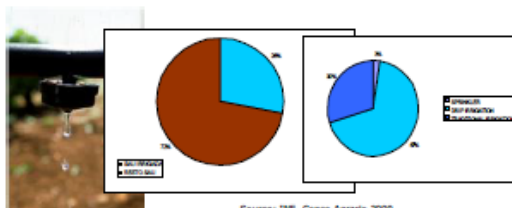


Source: INE. Encuesta de la estructura de las explotaciones agrícolas 2013



Irrigation

- Irrigated surface: 256.587 ha (28%)
- Mostly drip irrigated



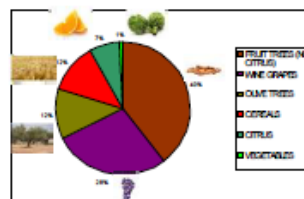
Source: INE. Censo Agrario 2009



Organic agriculture

- Aprox 25 000 ha, specific plans for promotion

SURFACE	ha
FRUIT TREES (EXC. CITRUS)	0.142
VINE GRAPES	0.179
OLIVE TREES	2.359
CEREALS	2.897
CITRUS	1.871
VEGETABLES	28



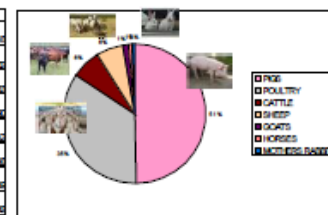
Source: INE. Encuesta de la estructura de las explotaciones agrícolas 2013.



Livestock

- Pigs and poultry, our major livestock

	ha
PIGS	261.916
POULTRY	104.427
CATTLE	34.117
GOATS	7.000
DEER	6.600
HORSES	5.400
OTHER	2.400
UNIT	627.860



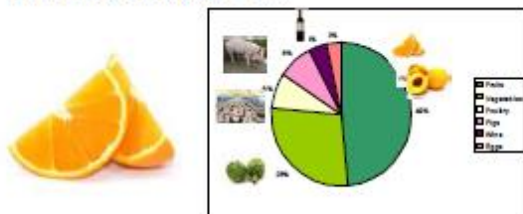
Flac: INE. Encuesta de la estructura de las explotaciones agrícolas 2013.



The Agri-food sector

Added Value

- Added value of Valencian agriculture: 2.824 M€
- 49 % Fruit, 77 % fruit & veg.



Source: Ministerio de Agricultura, Resultados Pertenencia Agraria Regional



Other economic figures

- An export-orientated agriculture

Agricultural exports (average 2010-14) 3.904 M€

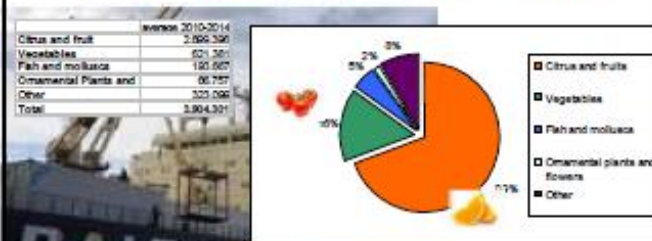


Fig. 1. Comercio Valenciano de Productos Agrarios

Other economic figures

- A tractor sector

More than 2,500 companies and 20,000 jobs linked to Agriculture

	NUM.
AGRICULTURAL COOPERATIVES	207
COMPANIES PROVIDING AN AGRICULTURAL HOLDING	1795
EXPORTATION COMPANIES	50
FERTILIZERS AND AGROCHEMICAL INDUSTRIES	65
LOGISTICS AND TRANSPORT Y TRANSPORTE	120
MACHINERY AND EQUIPMENT INDUSTRIES	50
PLANT MATERIAL PRODUCERS	200
OTHER (S.E. PLASTICS...)	30
TOTAL	2907

Fig. 1. Relación de empresas a partir de datos de la



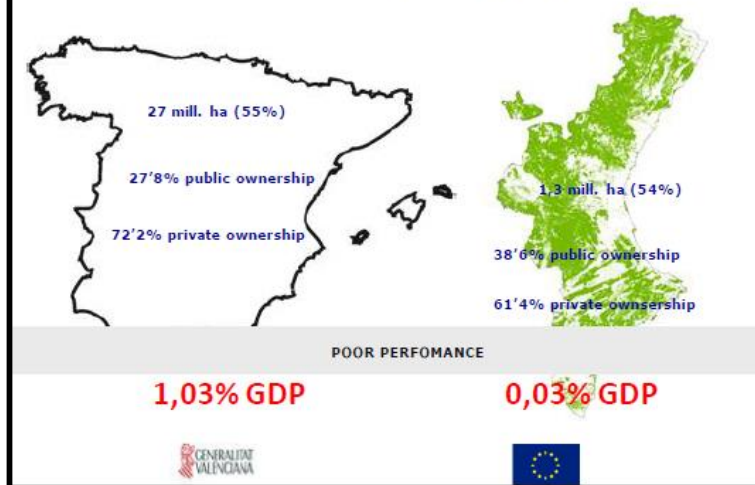
The Valencian food industry



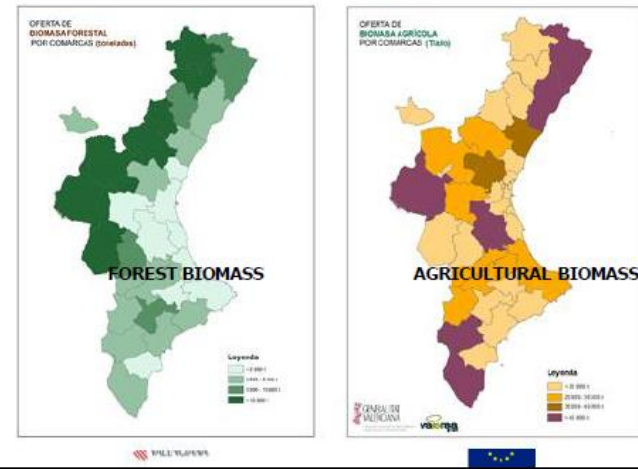
30,000 employees
9 billion € income
6 billion € Agrifood exports



The Valencian Forestry Sector

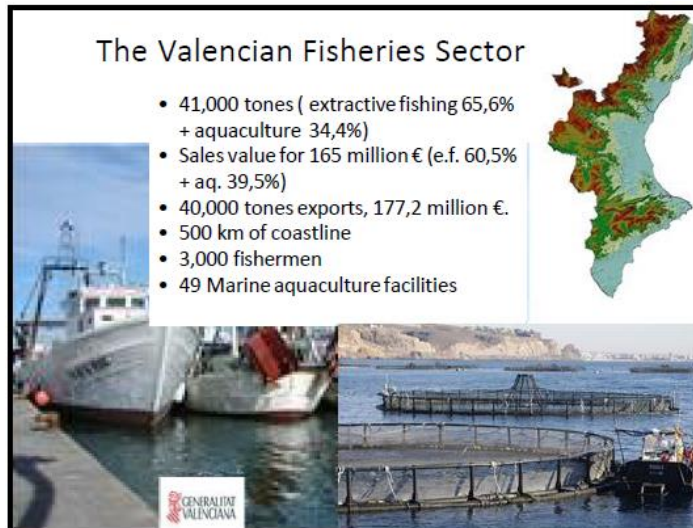


Potential use of Agricultural and Forest Biomass for energy production



The Valencian Fisheries Sector

- 41,000 tones (extractive fishing 65,6% + aquaculture 34,4%)
- Sales value for 165 million € (e.f. 60,5% + aq. 39,5%)
- 40,000 tones exports, 177,2 million €.
- 500 km of coastline
- 3,000 fishermen
- 49 Marine aquaculture facilities



Bioeconomy in the Research and Innovation Smart Specialization Strategy of Comunitat Valenciana

Bioeconomy in RIS3

- Region Specialization:
 - Agri-food
 - Tourism
 - Health
 - Consumer goods
 - Habitat
 - Automotive Industry
- KET
 - Advanced materials and nanotechnologies
 - Advanced production
 - ICT
 - Biotechnology
 - Micro, nano-electronics and photonics
 - Environmental technologies
 - Logistics

Bioeconomy in RIS3

The matrix of priorities is the RIS toolkit to arrange 4 well-sized focus policy blocks:

1. Quality of life Policy.
2. New Sustainable Industry
3. Digital Agenda
4. Sustainability

	A. Advanced materials and nanotechnology	B. Advanced production	C. ICT	D. Biotechnology	E. Micro and nano-electronics, Photonics	F. Energy and environmental technology	G. Logistics
TOURISM							
EFFICIENT HEALTH							
AGRI-FOOD							
PERSONALISED CONSUMER GOODS							
HABITAT: HOUSING AND ITS ENVIRONMENT							
AUTOMOTIVE & MOBILITY							
CAPITAL GOODS							

The Valencian Rural Development Programme 2014-2020 and the Bioeconomy

Opportunities for Bioeconomy in the Valencian RDP - Agrifood

- Investments in Processing and Trading Industries.
Objectives (92 M€):
 - Improve the overall performance of the agricultural production, creation of new partnerships and jobs
 - Increase added-value in the primary sector: better food quality and safety
 - Market-oriented, diversified production.
 - Protection of the natural environment
 - Sustainable social networks in rural areas, connecting primary production and processing industry

Opportunities for Bioeconomy in the Valencian RDP - Agrifood



- Measure 19. LEADER Local Development (27 M€).
- Objectives for Rural Areas (I):
 - Increase competitiveness and growth
 - Improve standards of living and quality of life
 - Maintain social networks
 - Promote sustainable occupation of territory (specially for youth and women).
 - Diversify the rural economy by supporting SMEs, entrepreneurship and innovation.

Opportunities for Bioeconomy in the Valencian RDP - Agrifood



- Measure 19. LEADER Local Development.
- Objectives for Rural Areas (II):
 - Enhance local governance and social animation
 - Promote high added value products
 - Ensure sustainability of rural activities
 - Defense and recovery of cultural and environmental heritage
 - Education, training and skill acquisition in the territory

Opportunities for Bioeconomy in the Valencian RDP - Agrifood

- Measure 16. Co-operation
 - Sub. 16.2. Pilot projects for the development of new products, practices, processes and technologies.



1st Valencian Plan on Organic Production



- Objectives
 - To support local organic farming, linked to conscious and responsible consumption
 - To boost high quality food production and processing, based on diversification, environmental respect, and natural resources preservation
 - Prioritization of **bioeconomy and circular economy**

1st Valencian Plan on Organic Production



- Actions
 - Implementation starts in 2017
 - Pilot project on agri-compost in collaboration with the municipalities:
 - Generation of quality compost for organic fertilization
 - Adequate sorting of solid urban waste
 - Lower inputs costs for farmers and less quantity of urban waste

Opportunities for Bioeconomy in the Valencian RDP - Forestry

- Measure 8 - Investment in forest area development and improvement of the viability of forests (60 M€)
 - Reforestation and creation of woodland
 - Establishment of agroforestry systems
 - Prevention and restoration of damage to forests from forest fires/natural disasters/catastrophic events
 - Improving the resilience and environmental value of forest ecosystems
 - **Investments in forestry technologies, processing, mobilising and marketing of forest products**

Opportunities for Bioeconomy in the Valencian RDP - Forestry

- Investments in technologies, processing, mobilization and marketing of forest products (60 M€).
 - Objectives:
 - promote marketing of forest products
 - integrate producers in the distribution chain to reduce management costs
 - adapt production to market needs using innovative technologies and processes
 - Focused on non-timber products (cork, honey, resins, aromatic, medicinal and seasoning plants, wild mushrooms) and residual wood management

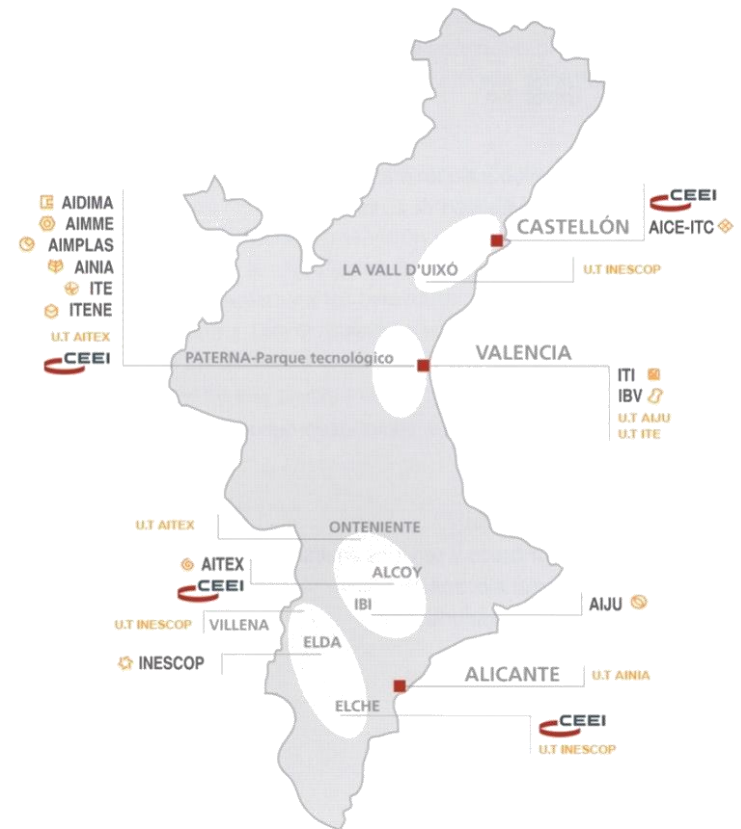
Regional R&I potential in Bioeconomy

Enrique Moltó

Competitive R&I

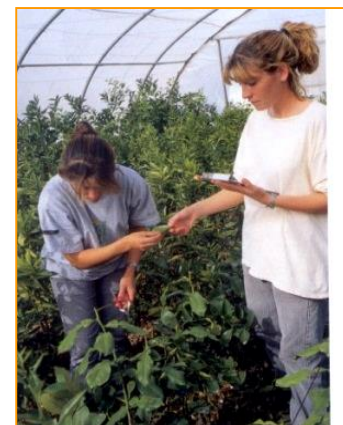
- 6 Private and 5 Public Universities (with 5 Sciences Parks).
Highly Competitive professionals.
- 11 research centers, most belonging to the Spanish National Research Council (CSIC).
- 4 CEEIs belonging to the European Centre of Enterprise and Innovation.

- 11 Technological Institutes



IVIA + extension services

- More than 300 people (50 researchers)
- 8900 m² laboratories and offices
- 45000 m² Experimental plots



IVIA + extension services

- Citriculture and Crop Production
- Plant Protection and Biotechnology
- Genomics
- Postharvest Technology
- Agric. Engineering
- Sustainable Agriculture
- Livestock Technology



Results oriented to

- New plant material: diverse, resilient, productive, resource-efficient, market-oriented
- Plant protection: Prevention and Bio-control
- Development of sustainable and organic agriculture: water, soil, fertilization
- Resource-efficient, precision farming
- Extension of shelf-life, freshness, organoleptic quality



Moving forward towards bioeconomy

- Resource-efficiency, sustainability and eco-friendly technologies as cross-cutting issues in every research project
- Promotion of added value from agricultural residues
- IVIA is a BIC affiliate member
- Member of the European Stakeholders Bioeconomy Pannel
- IVIA is a Climate-KIC affiliate member
- IVIA coordinates the Valencia H2020 working group on agrifood

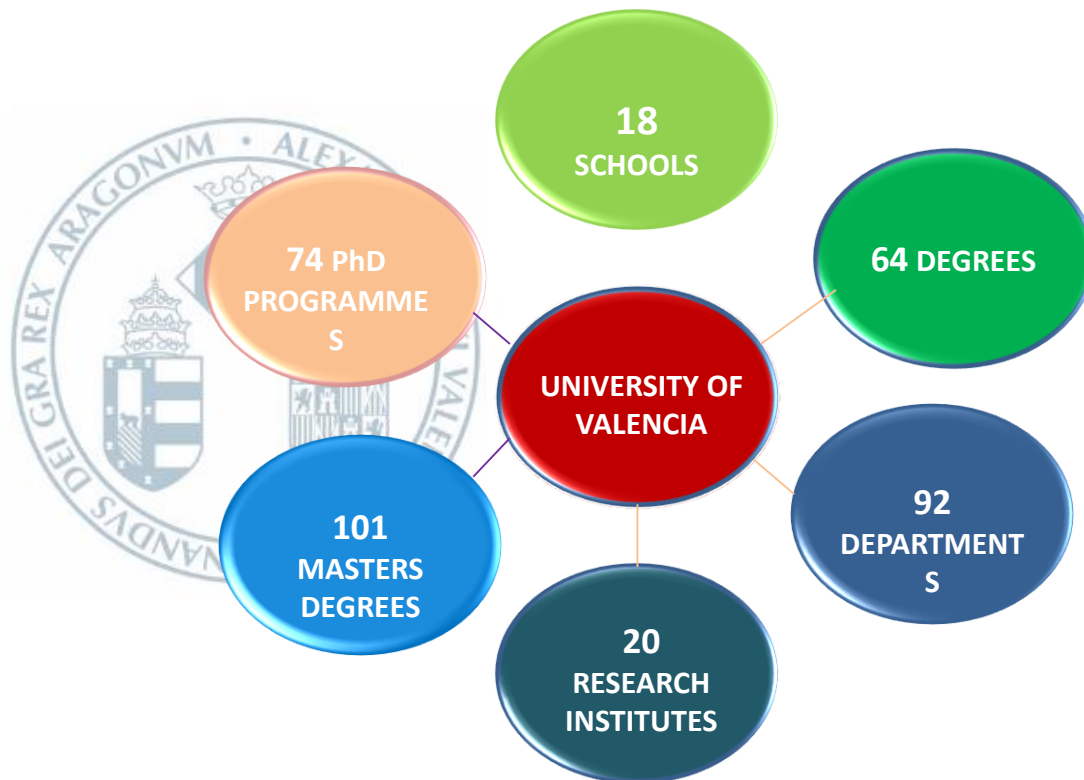


Institute of Agrochemistry and Food Technology – IATA CSIC & the Bioeconomy

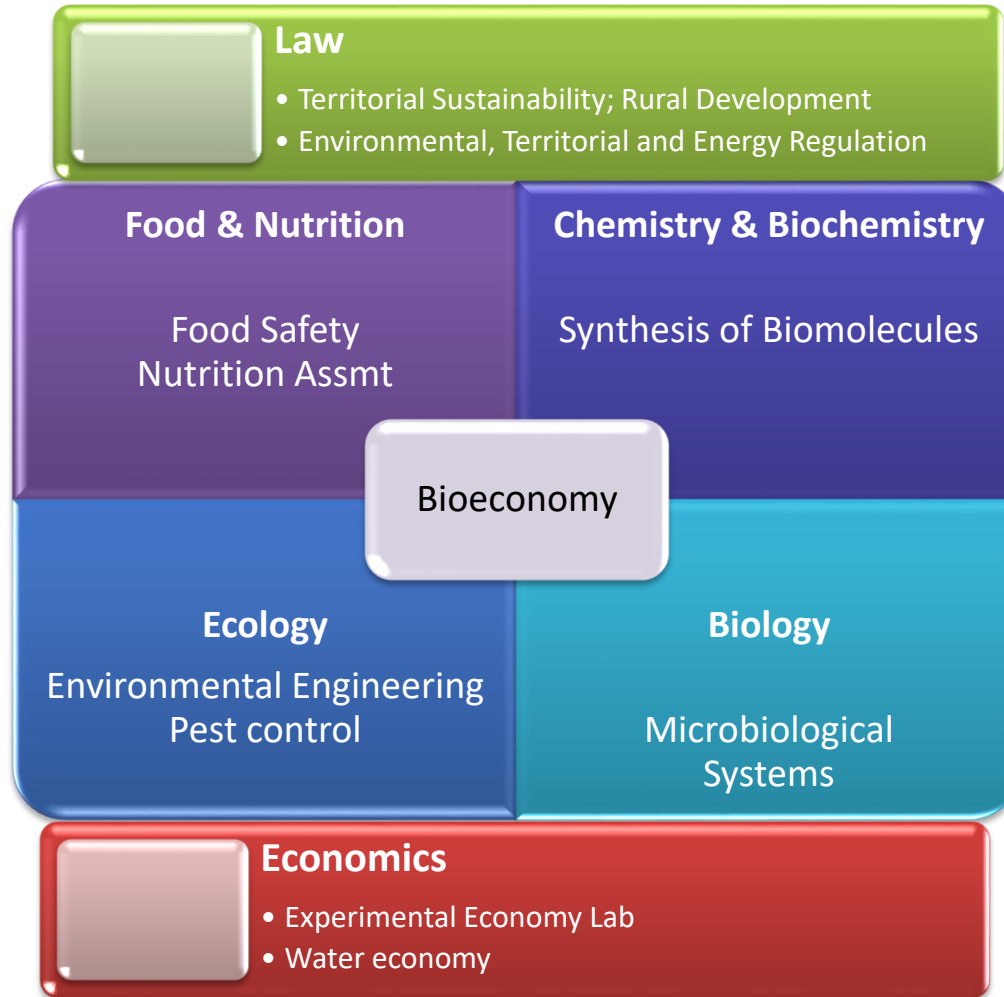
- Current projects related to bioeconomy
 - Improving microorganisms for process optimisation (more efficient yeasts for bioethanol production)
 - Waste and sidestreams valorisation for bioactives and novel materials (novel functional biopolymers from seaweed byproducts)
 - More efficient and resilient food production systems (sustainable pork production systems based on new breeding techniques)
 - New and improved enzymes (novel biocatalysts for biobased products)

Universitat de València in figures

- Students: >46.000
- Teaching Staff: >3.500
- Administrative Staff: >1.500
- 3 Campus sites: 440.000 m²
- Master and PhD students: > 10.000
- Raised funding for RTD: > 50 M€/year
- 6,500 trainees in more than 2,400 companies and institutions



Bioeconomy: R&D capacities



Universitat Politècnica de València

- 5 campus sites
- 37.800 students
- 2.600 teaching and research staff
- 1.700 are administrative and services personnel.
- Associated schools: Ford, Business Studies, etc.
- International vocation: Colombia, Argentina, Mexico, Cuba, Uruguay, Japan, United Arab Emirates, Morocco, USA

Universitat Politècnica de València

Results with
great societal impact

Next generation zeolites,
nanophotonic metamaterials,
intelligent medicines,
vegetable production, optic chips...

AINIA



- Association of 700 enterprises:
 - Food
 - Environment
 - Energy
 - Packaging
 - Pharmaceuticals & Biomedicine
 - Cosmetics
 - Chemicals, cleaning, hygiene
- Customers: 1300 enterp.
- Staff: 185 people
- Income: 14 M €
- R&I projects: 180
- Patents: 19
- Analytical services: 208000
- Training: 1300 h

AINIA. Examples of R&I

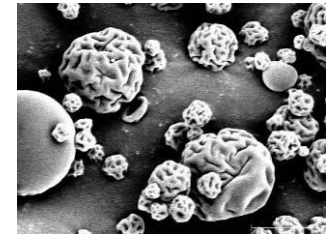
- PH BOTTLE
 - New sostenible, funcionalised and competitive material
 - From byproducts of the juice industry
 - For new food and non-food packaging
 - AINIA (Coordinator), AIMPLAS, TNO, INTI, Logoplaste Innovation Lab, CITRESA, MEGAEMPACK, LOGOPLASTE BRASIL, OMNIFORM, SIVEL, AIJN
 - <http://www.phbottle.eu>





AINIA. Examples of R&I

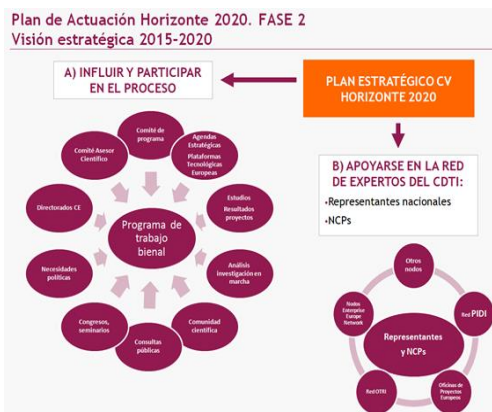
- New products from algae with immunological stimulant activity
- Low cost media for algae cultivation (molasses and other byproducts from the agri-food industry).
- Recuperation of bioactive compounds
- Microencapsulation and use in food (sauces, cookies)
- Studies of Biodisponibility



Participation of Valencian entities and enterprises in EU funded projects related to Bioeconomy.

Participation in EU funded projects related to Bioeconomy

- In 2013 the Regional Government and a group of key stakeholders set up The H2020 Regional Action Plan (RAP)

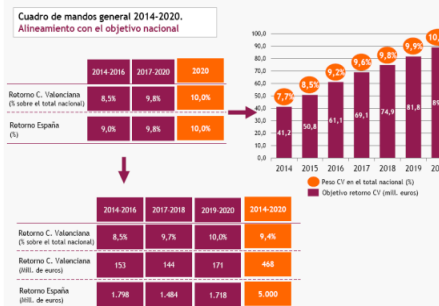


Objetivos de retorno por entidad: 2014-2020

Cuadro de mandos: 2014-2020
Proyección por tipo de entidad según porcentaje VII PM 2011-2013

		2014-2016	2017-2018	2019-2020	2014-2020
	% VII PM 2011-2013	MIIL. €	MIIL. €	MIIL. €	MIIL. €
Empresas (Millones de euros)	34,6%	53,2	50,0	59,3	162,5
Centro de Innovación Tecnológica (Millones de euros)	20,3%	31,1	29,2	34,7	95,0
Universidades (Millones de euros)	25,3%	39,1	36,7	43,6	119,4
Centro Público de Investigación (Millones de euros)	12,6%	19,3	18,1	21,5	59,0
Reto (Millones de euros)	6,9%	10,6	9,9	11,8	32,3
Retorno C. Valenciana (Millones de euros)	100%	153,2	144,0	171,0	468,2

Objetivos generales de retorno: 2014-2020



ESHorizonte 2020 MATRIZ DE RESPONSABILIDAD DE SUPERVISIÓN DE OBJETIVOS

OBJETIVOS POR PRIORIDAD EXPRESADOS EN MILLONES DE EUROS

PLAN HORIZO	PRIORIDADES	UNIDADES SUPERVISORAS DE RESULTADOS						2014-2016	2017-2018	2019-2020	TOTAL
		DG Industria	DG Energía	DG Investigación	DG Agricultura	DG TIC	DG Asuntos Sociales				
EXCE.	C. EXCELENTE							28,80			
LEIT	ACCESO A FINANCIACIÓN							25,29			
RETOS	ENERGÍA CLIMA...							38,00			
	TRANSPORTE							3,05			
	MEIO AMBIENTE							12,74			
	SEGURIDAD							6,11			
OTROS	OTROS							3,59			
HORIZONTAL	INICIATIVA Pyme							1,35			
	GENERAL							0,43			
TOTAL								2,80			
	IVACE Pm							17,28			
	NACE INN							29,80			
	DG RD							80,20			

Participation in EU funded projects related to Bioeconomy



MATRIZ DE RESPONSABILIDAD DE SUPERVISIÓN DE OBJETIVOS
OBJETIVOS POR PRIORIDAD EXPRESADOS EN MILLONES DE EUROS

PILAR H2020	PRIORIDADES	UNIDADES SUPERVISORAS DE RESULTADOS								2014-2106 ME
		DG Industria	DG Energía	DG Universidades	DG Investigac. Sanitaria	DG Agricultura	DG TIC	DG Asuntos Sociales	DG UE	
C. EXC.	C. EXCELENTE			X						28,80
LEIT	MNP-BIOTECH-ESP	X								25,29
	TIC						X			38,00
	ACCESO A FINANC.	X (IVACE FIN)								5,65
	PYME	X (IVACE INN)								1,23
RETOS	SALUD				X					10,26
	ALIMENTACION...					X				12,74
	ENERGIA, CLIMA...		X							6,11
	TRANSPORTE	X								3,59
	MEDIO AMBIENTE		X							9,35
	SOCIEDADES							X		3,15
	SEGURIDAD						X			6,43
OTROS	OTROS									2,60
HORIZONTAL	Instrumento PYME	IVACE								8,53
	GENERAL								X	
TOTAL/DG		182,61	47,26	88,02	31,35	38,94	135,77	9,62		153,2
	IVACE FIN	17,28								
	IVACE INN	29,80								
	DG IND	88,28								