



Generalitat  
de Catalunya

**IRTA**

INVESTIGACIÓN | Y | TECNOLOGÍA  
AGROALIMENTARIA



**“RESEARCHING  
TODAY TO BRING  
TOMORROW  
CLOSER”**

[WWW.IRTA.ES](http://WWW.IRTA.ES)

## Regional R&I Investments in Bioeconomy.

Practical approach of public-private partnering in Catalan Agriculture and Food industry

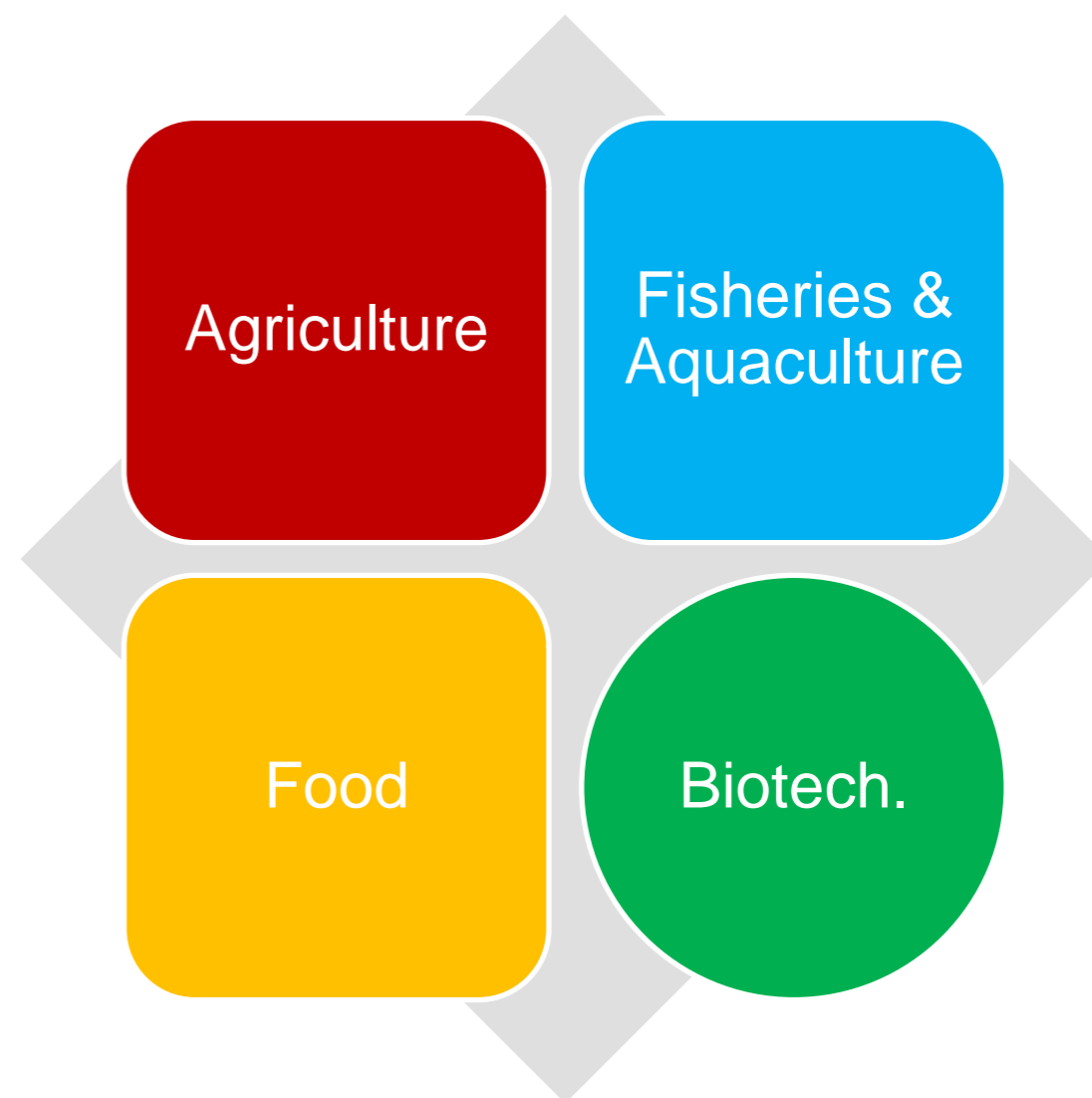
Eliecer LÓPEZ JIMENEZ  
R+D Business Deployment Manager  
Institute of Agricultural and Food Research

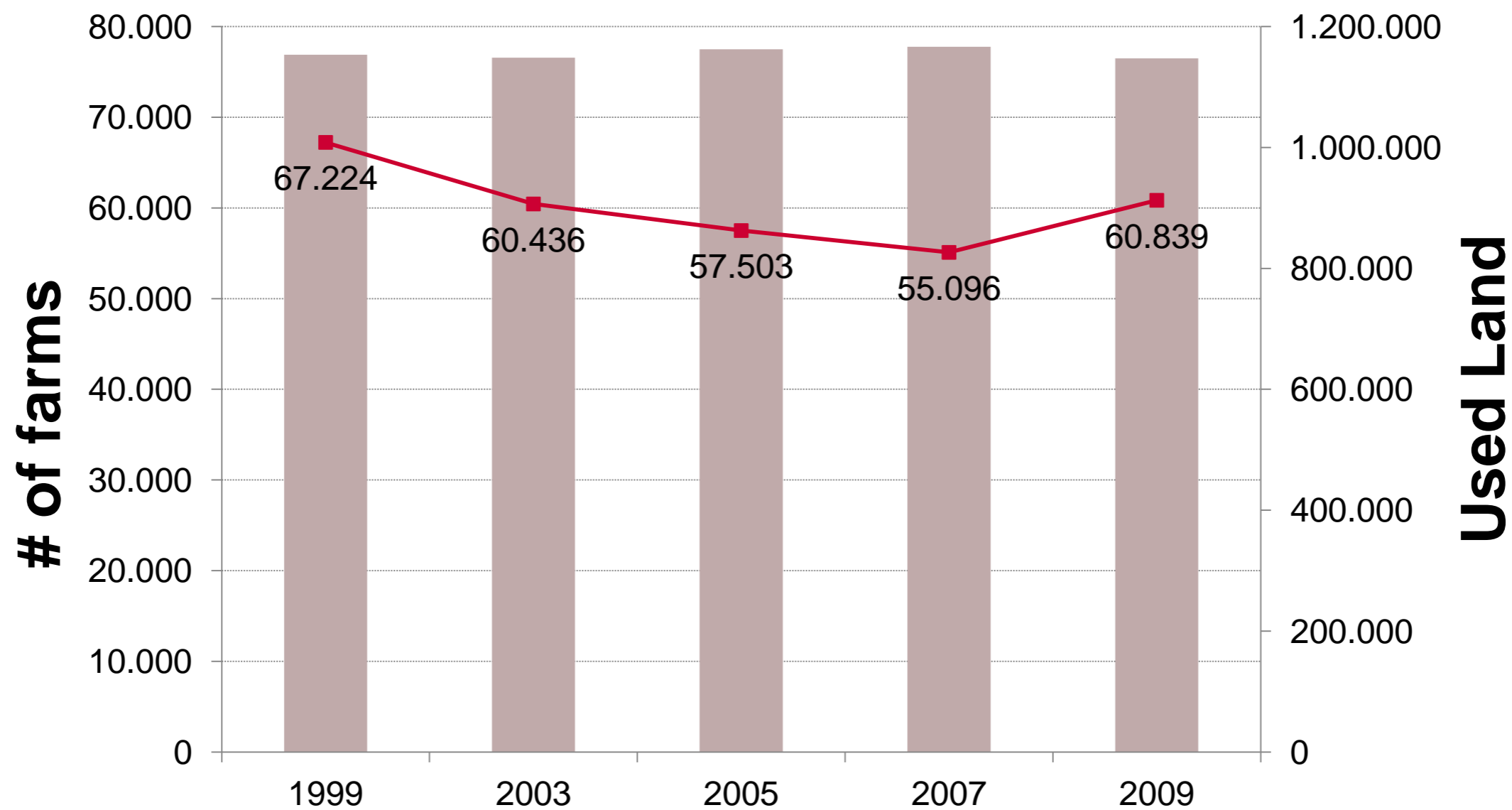


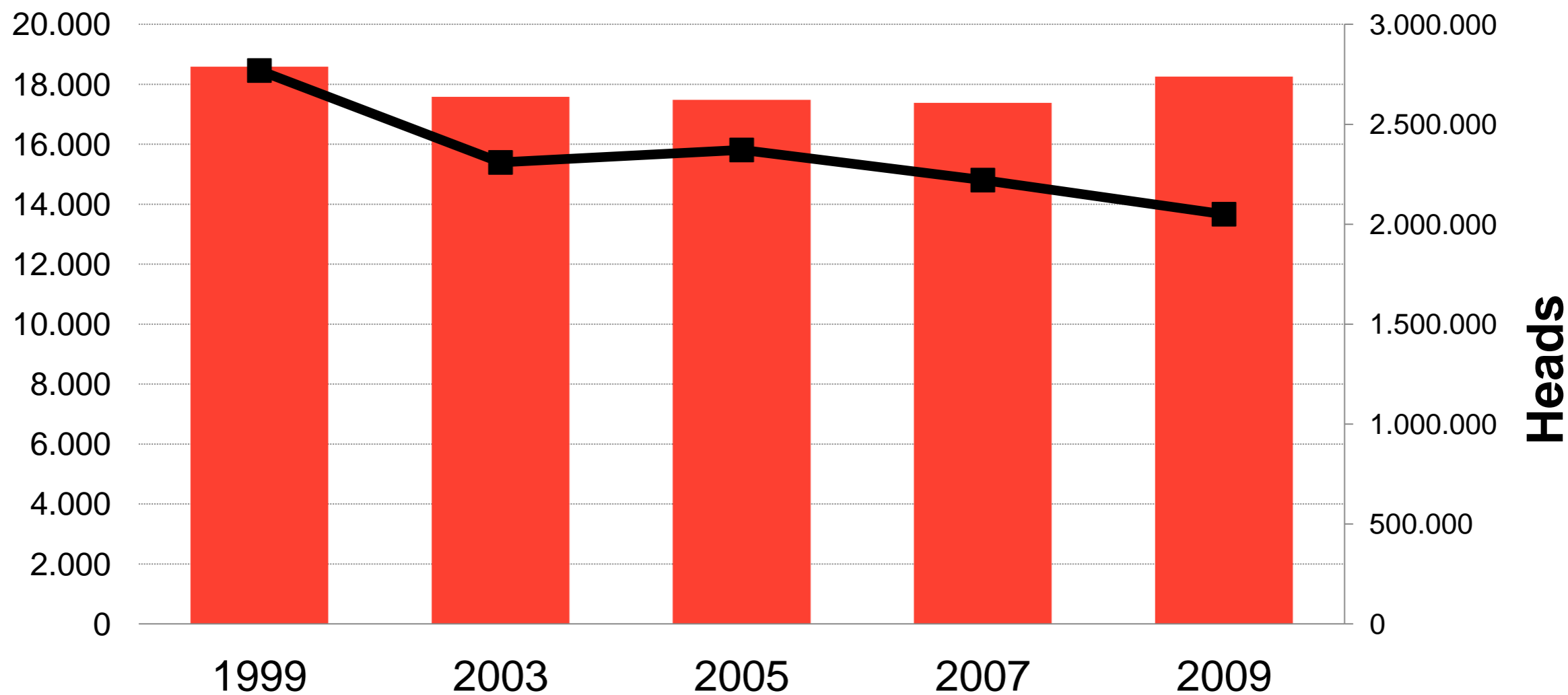
Generalitat de Catalunya  
**Departament d'Agricultura, Ramaderia,  
Pesca, Alimentació i Medi Natural**

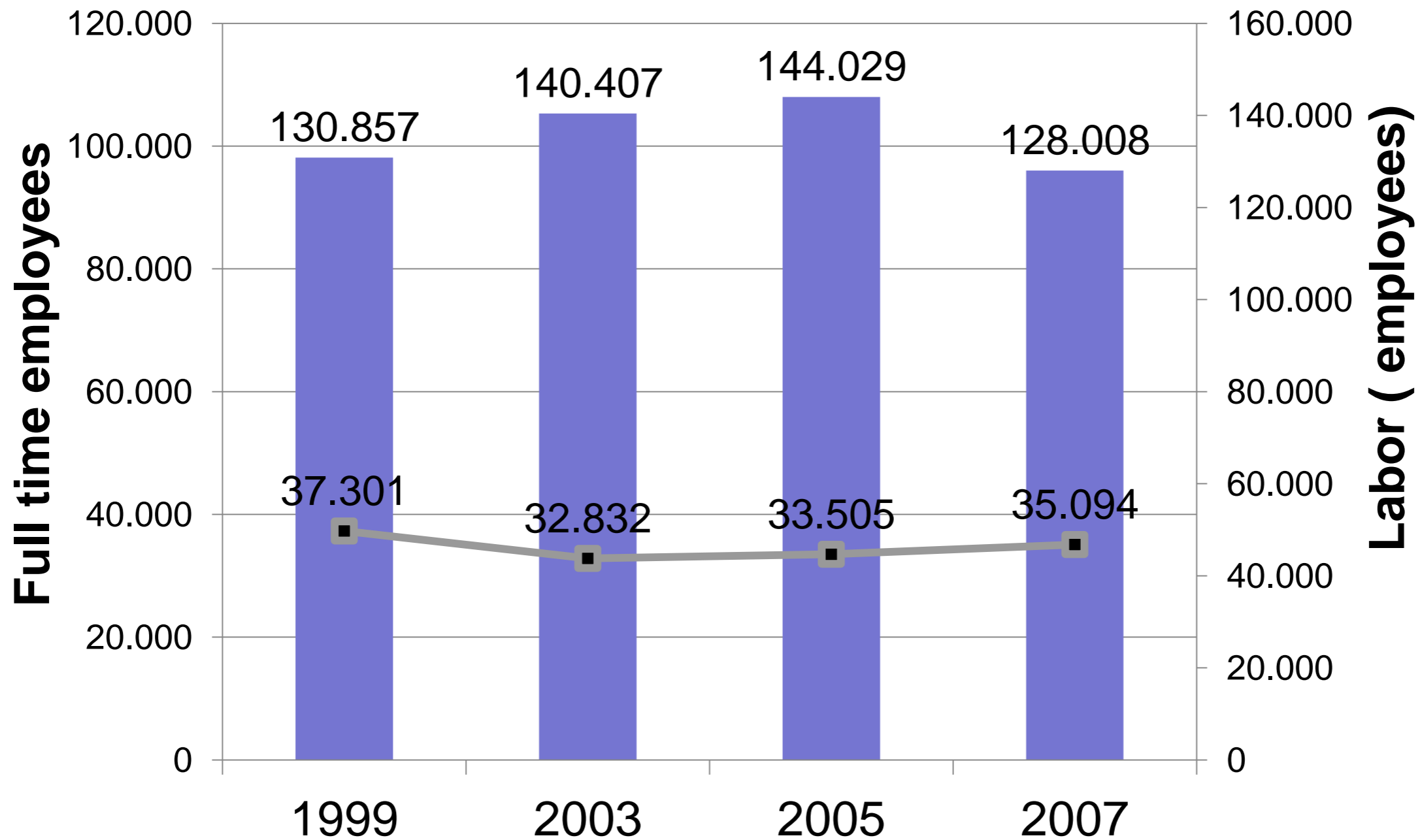
1. Explain main facts and figures of bioeconomy in Catalunya (Agriculture+Food)
2. Explain how Catalan Government is boosting bioeconomy in the agricultural sector
3. Showcase successful local and regional ongoing partnering initiatives for the bioeconomy
4. Explain how the regions and the commission can work together to reinforce bioeconomy

## 1. Facts and figures of Catalan Bioeconomy

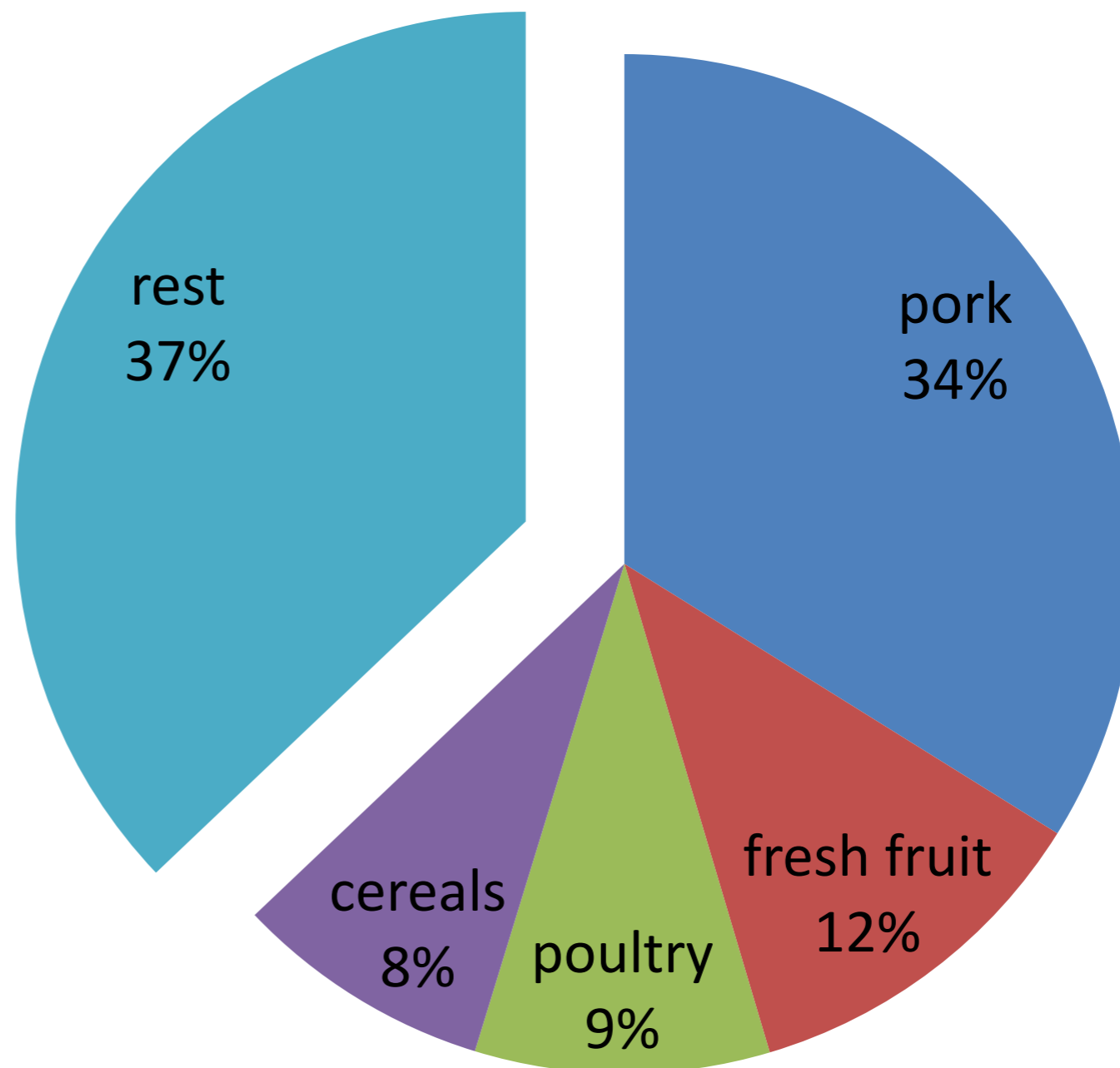




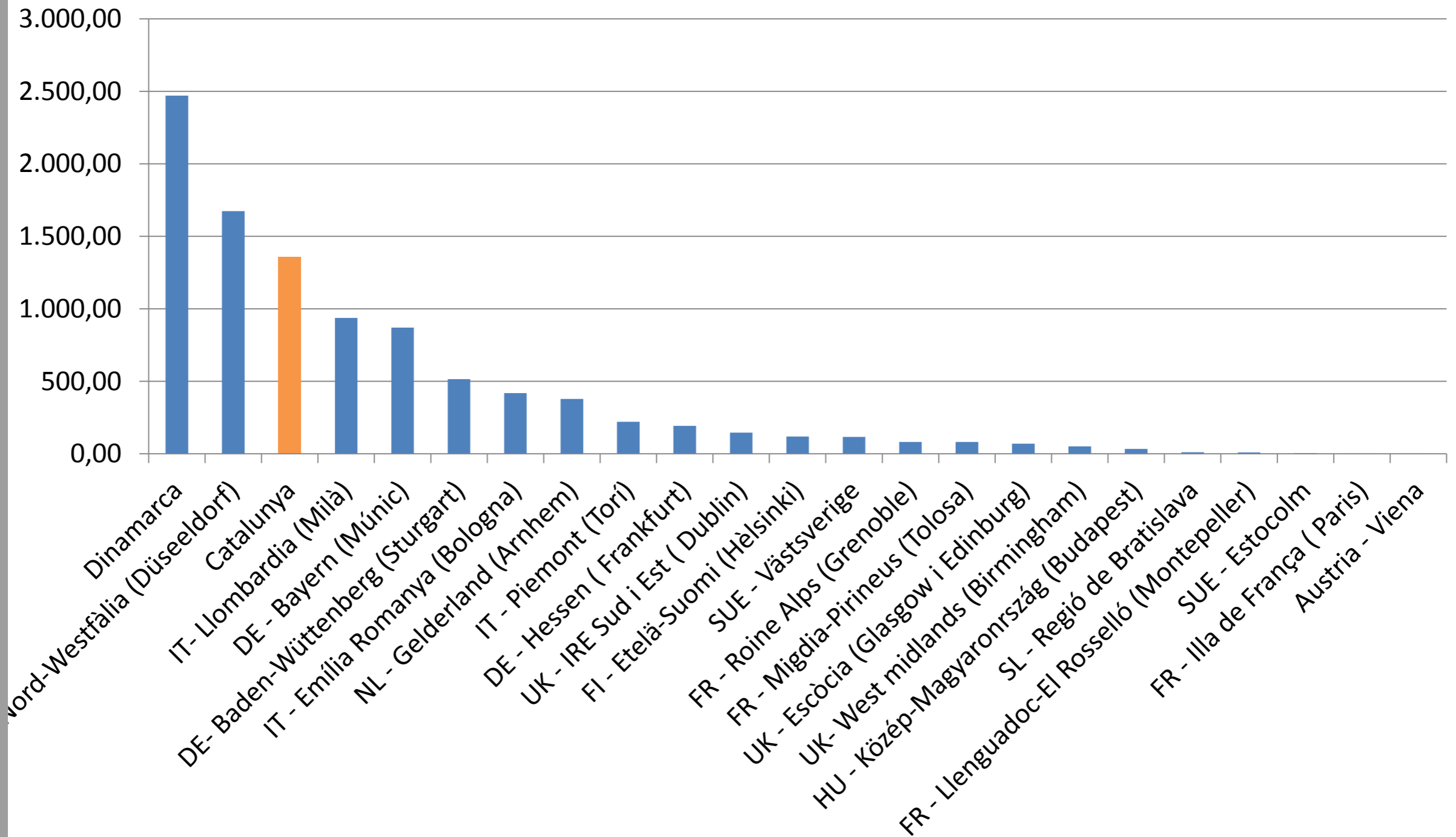


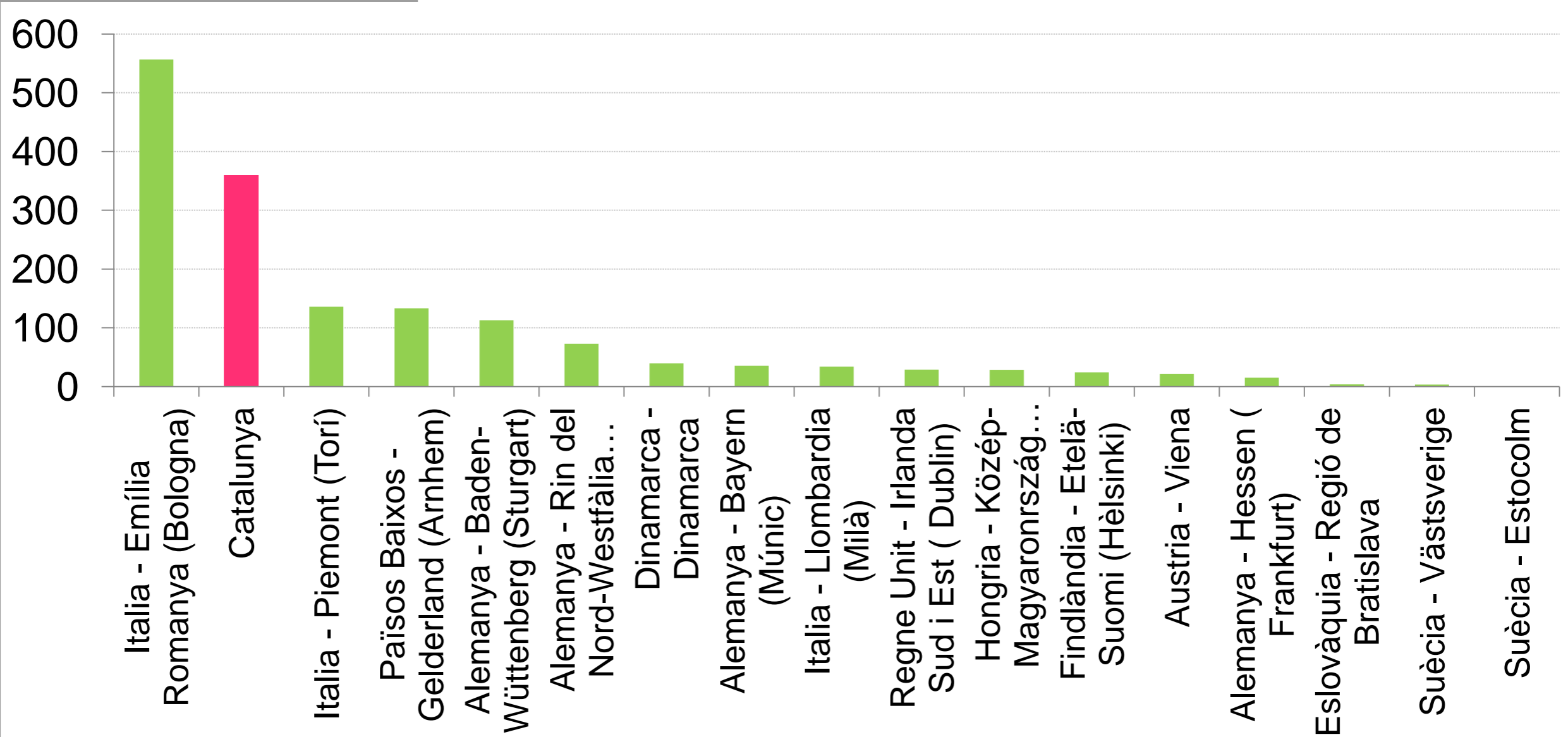


PRODUCTION	M€
pork	1343,5
fresh fruit	457,5
poultry	370,3
cereals	324
rest	1471,7
<b>total</b>	<b>3967</b>

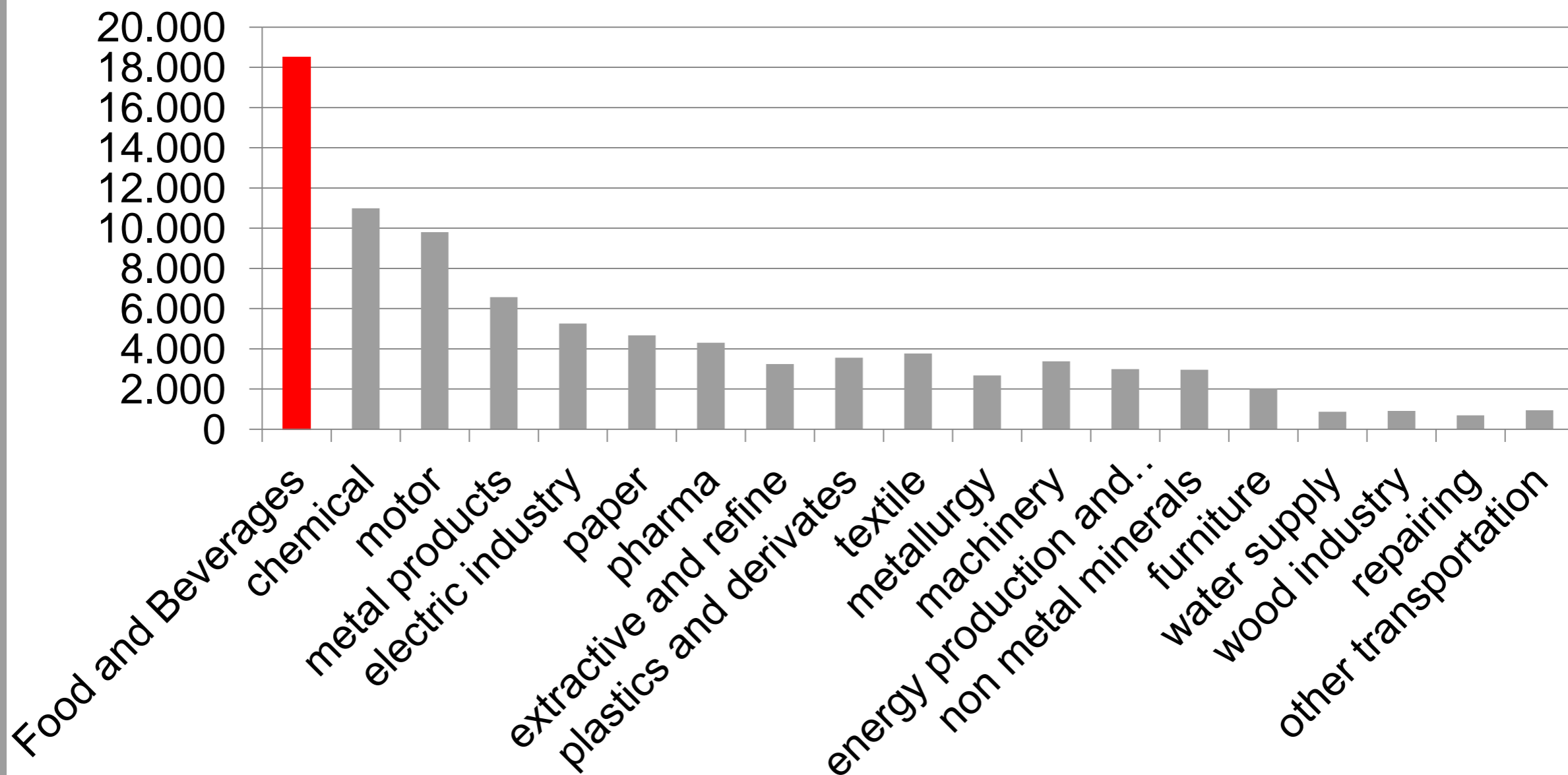




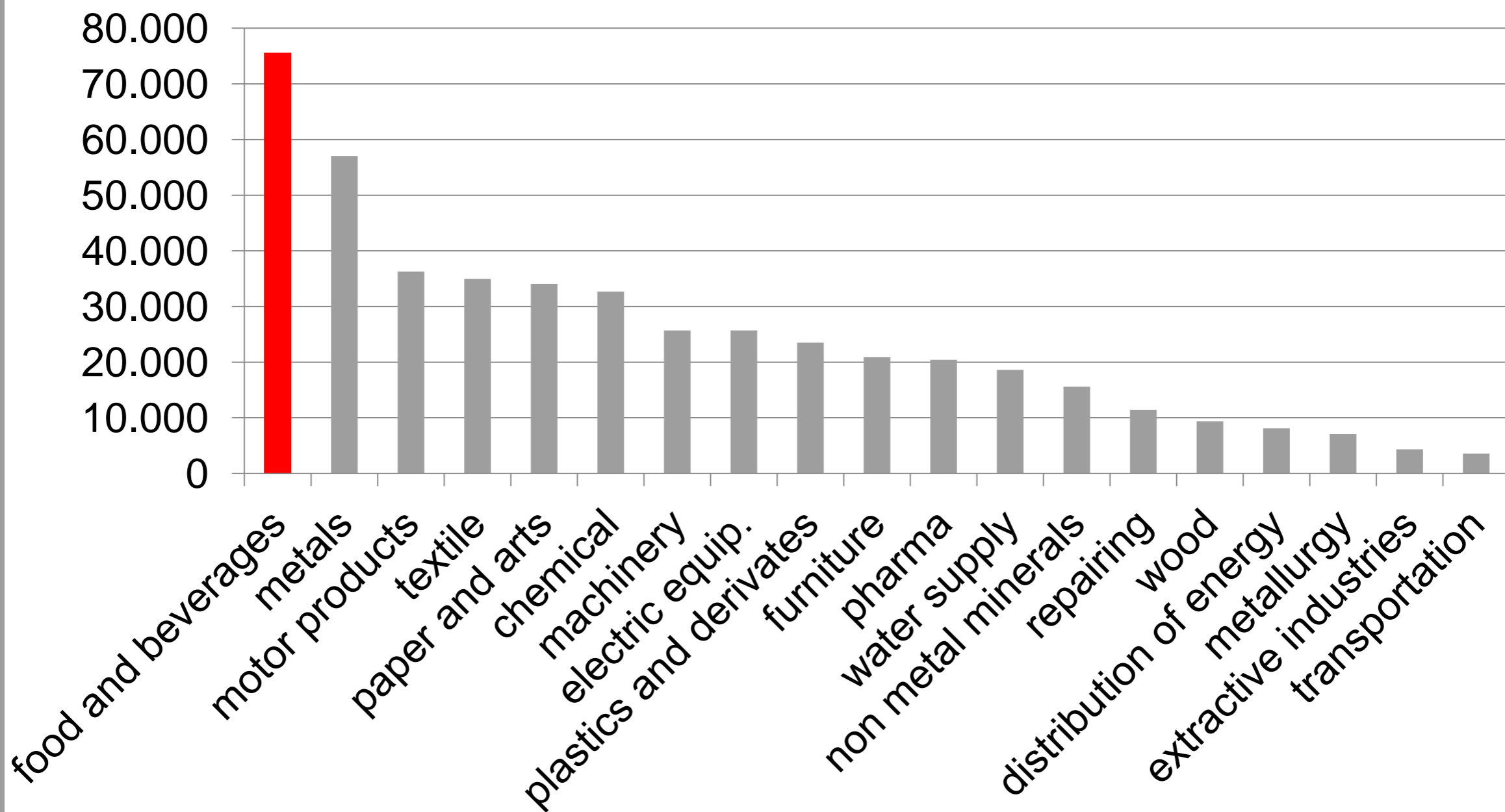




## Net Sales 2010 (Million €)

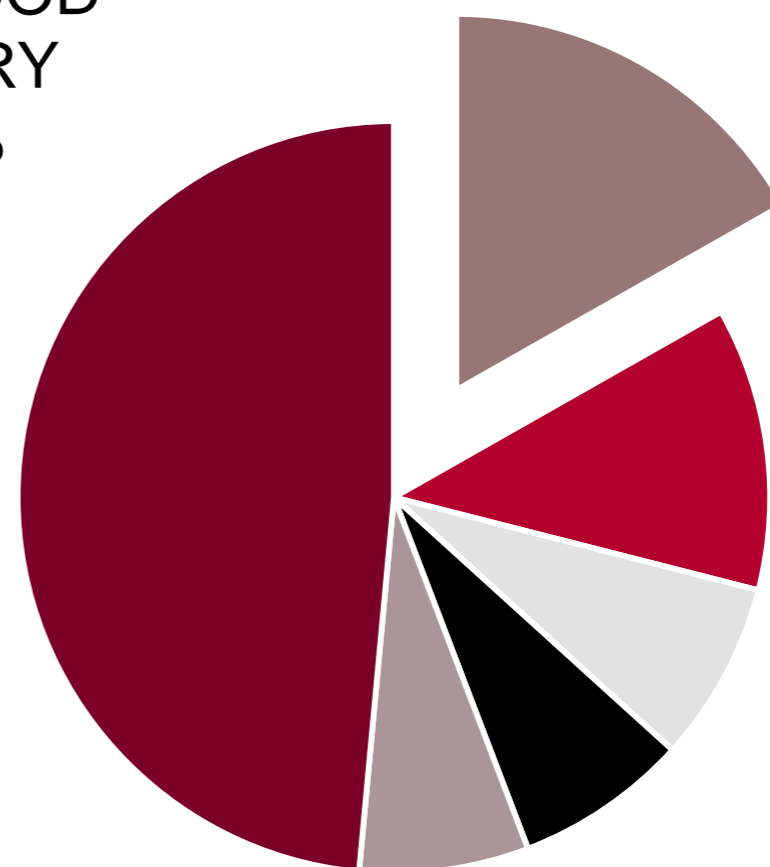


**2010**





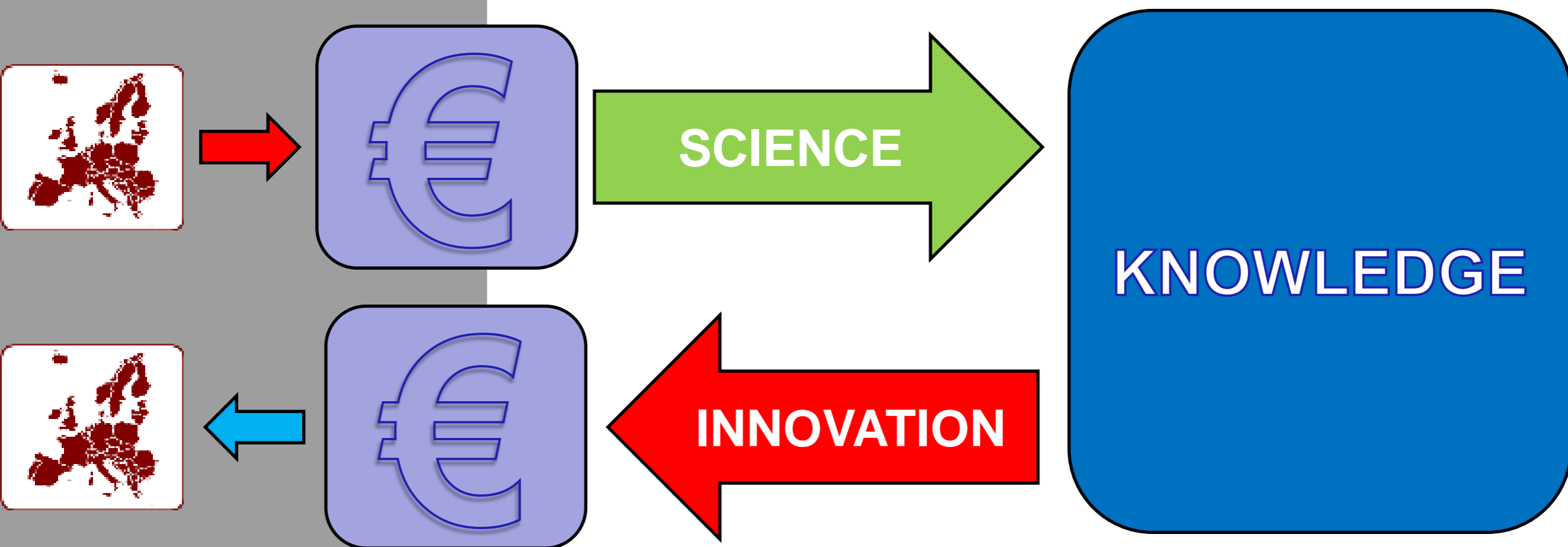
SALES FOOD  
INDUSTRY  
20,15%



OCCUPATION  
FOOD  
INDUSTRY  
16,78%



## 2. Catalan Government is boosting bioeconomy.



EU

- Horizon 2020 / ACP



SP

- OCDE Report 2010



CAT

- National pact for Research And Innovation

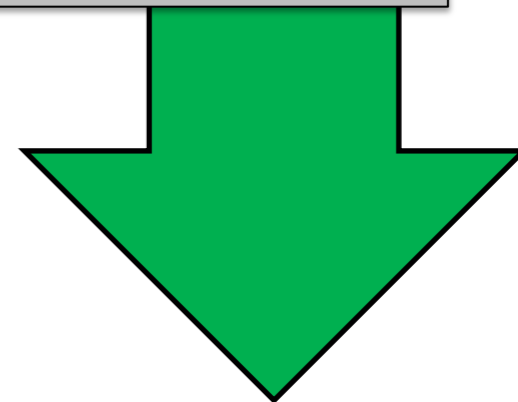


Research and Innovation Plan of Catalonia 2010-2013

Improvement of governance in R+D at all levels

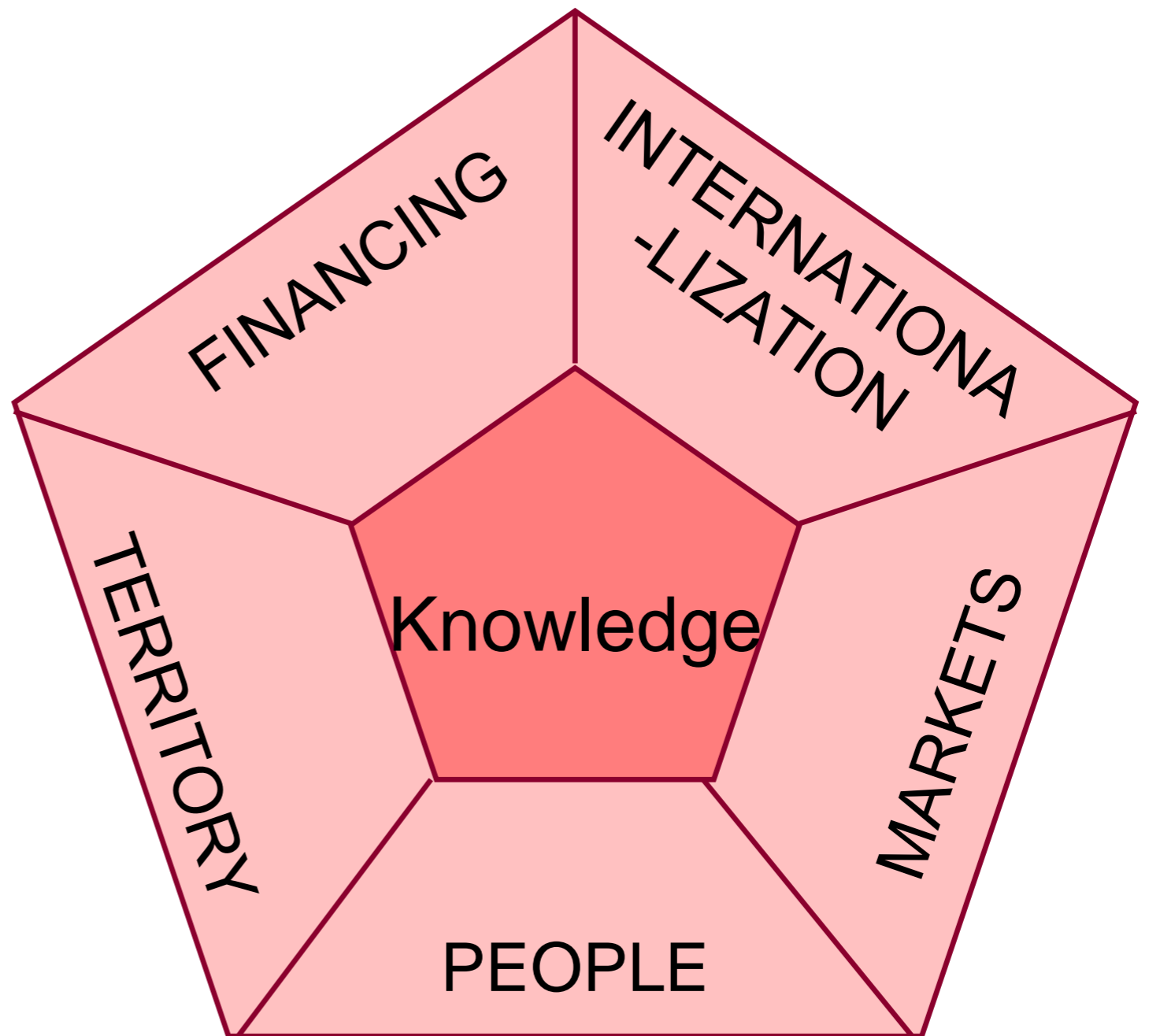
Focusing R+D on 17 precise Challenges (1 for bioeconomy)

Agricultural Policy Debate on april 2010



Strategic plan for R+D in agriculture (2012-2016)





1. Define strategic positioning in the Catalan food by 2020, as a key sector for competitiveness and wealth creation
2. Identify the main challenges for the future in terms of knowledge generation, fostering innovation and socioeconomic growth, defining objectives in terms of scientific production, payback, transfer, competitiveness and employment

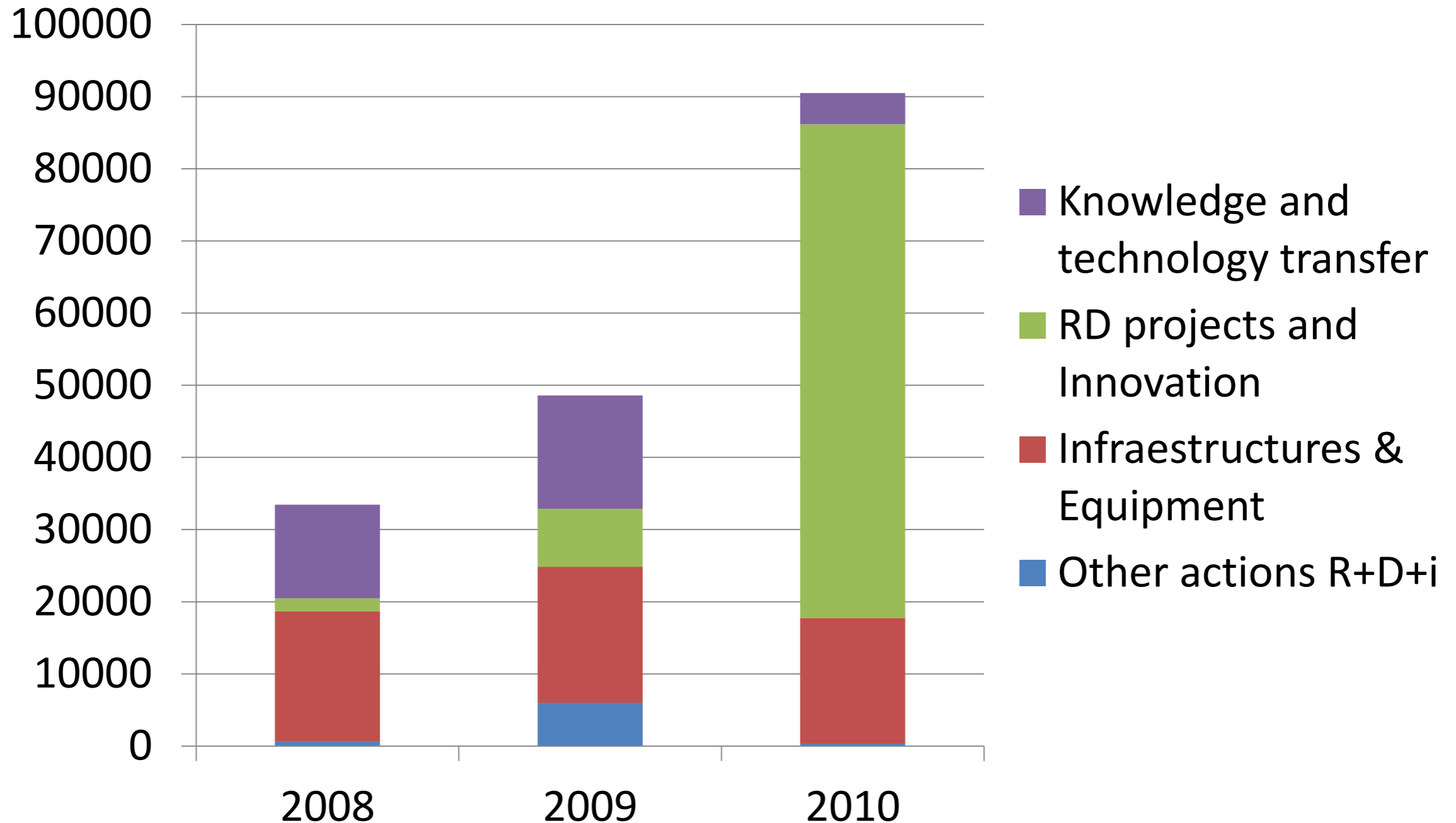
3. Align all agents in the innovation system (research, training, tech transfer, and industry) towards the priorities identified, especially improving the private-public research
4. Attract more R & D resources for Catalan food industry

**The process involved 22 sessions of work in order to match priorities of 14 sectors and 8 major scopes**

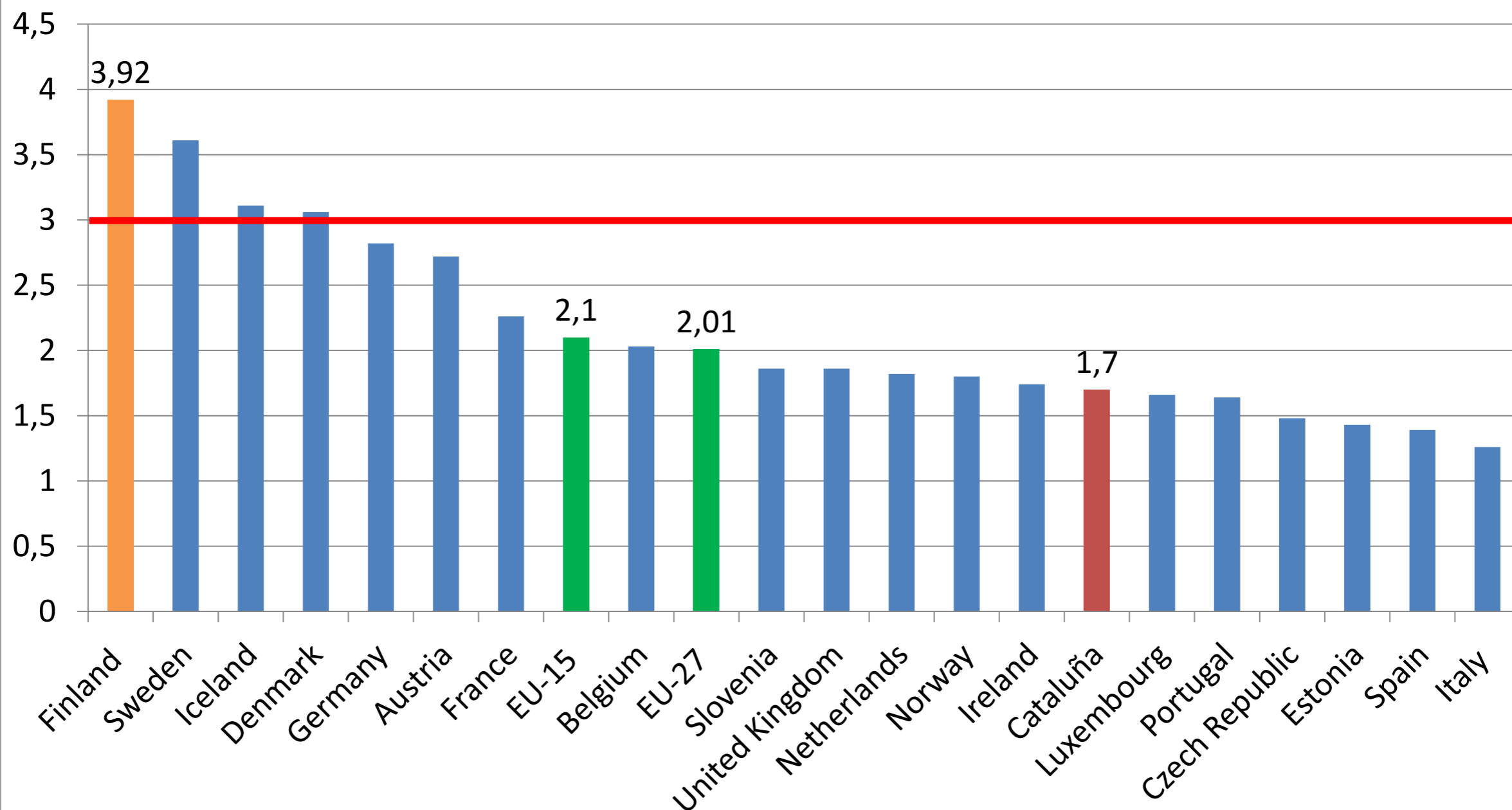
**More than 400 professionals were consulted**

	EXPENDITURE IN R+D / GDP					VALUE OF EXPEND.
	2007	2008	2009	07-08	08-09	08-09
Navarra	1,88	1,96	2,19	4,3%	11,7%	8,2%
País Basc	1,87	2,03	2,12	8,6%	4,4%	0,1%
C. Madrid	1,92	2,02	2,06	5,2%	2,0%	0,2%
<b>Catalunya</b>	<b>1,48</b>	<b>1,64</b>	<b>1,70</b>	<b>10,8%</b>	<b>3,7%</b>	<b>-0,1%</b>
<b>Espanya</b>	<b>1,27</b>	<b>1,35</b>	<b>1,39</b>	<b>6,3%</b>	<b>3,0%</b>	<b>-0,8%</b>
Cantabria	0,88	1,06	1,17	20,5%	10,4%	5,9%
Castiella i Lleó	1,10	1,31	1,15	19,1%	-12,2%	-14,9%
Aragó	0,90	1,02	1,12	13,3%	9,8%	5,3%
C. Valenciana	0,95	1,04	1,11	9,5%	6,7%	0,6%
Andalusia	1,02	1,03	1,10	1,0%	6,8%	2,5%
La Rioja	1,16	0,98	1,08	-15,5%	10,2%	5,2%
P. d'Asturies	0,92	0,97	1,01	5,4%	4,1%	-1,5%
Galícia	1,03	1,01	0,93	-1,9%	-7,9%	-10,3%
Extremadura	0,74	0,89	0,90	20,3%	1,1%	-1,1%
R. de Murcia	0,91	0,84	0,87	-7,7%	3,6%	-0,8%
Castella-La Manxa	0,60	0,68	0,63	13,3%	-7,4%	-10,5%
Canaries	0,64	0,64	0,59	0,0%	-7,8%	-11,2%
Balears	0,33	0,36	0,38	9,1%	5,6%	2,5%

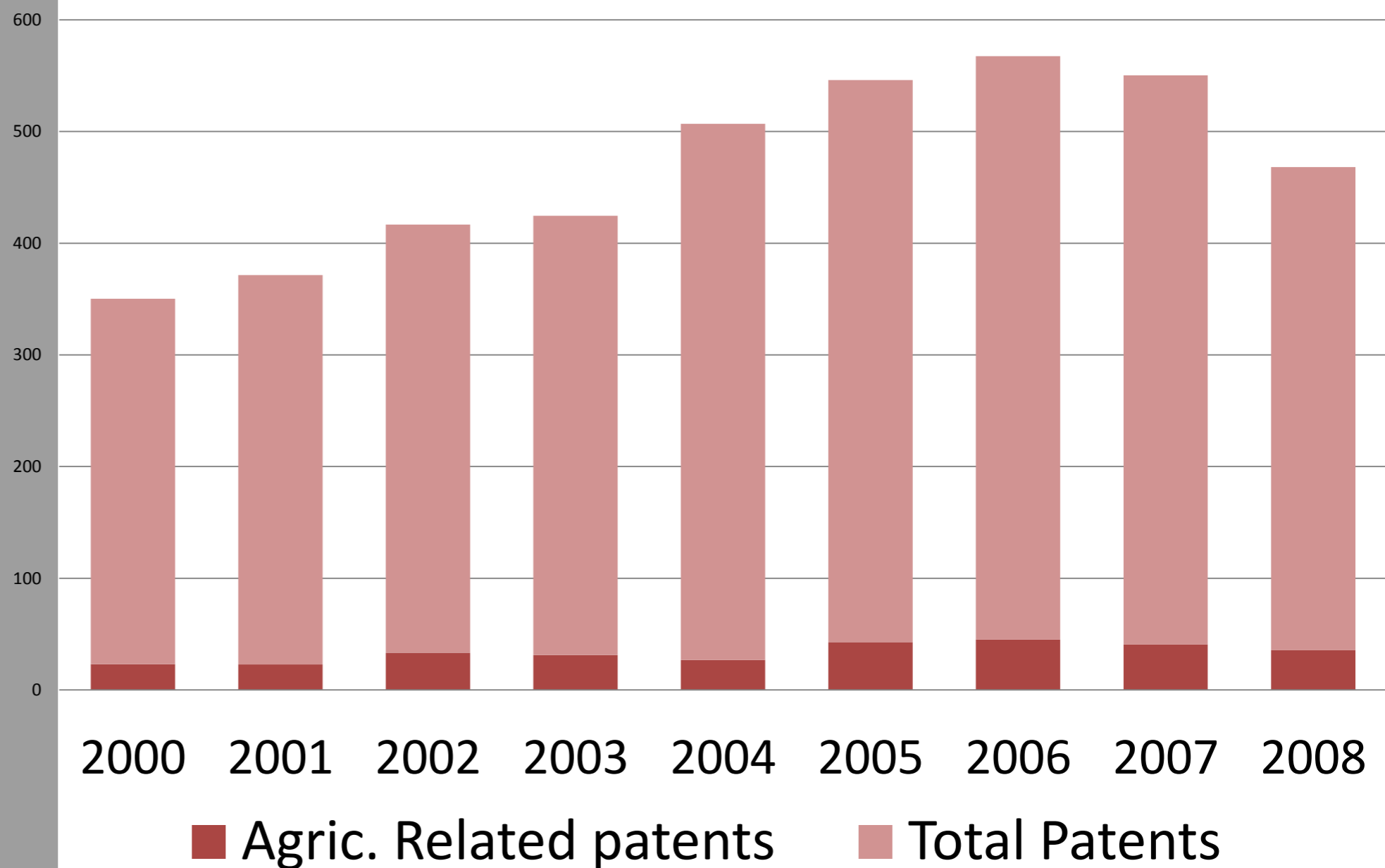
Thousand €	2008	2009	2010
Department of agriculture, food and rural action			
Agriculture, animal production and fisheries	27951	29661	30053
others	0	363	616
energy	30	872	0
environment	164	343	204
production and industrial technology	5300	17336	59620
Department of environment			
Agriculture, animal production and fisheries	10	11	6
<b>TOTAL Expenditure</b>	<b>33454</b>	<b>48587</b>	<b>90500</b>



**Expenditure R+D / GDP 2009**



### Number of Patents filed







### 3. Success Stories in Public Private Partnership

1. Fruit Breeding program.
2. SpecificPig Ltd.
3. APA Processing facilities
4. QDS® System
5. Ordesa - IRTA Joint  
Research Unit on Infant  
formula and liquid Food



Generalitat  
de Catalunya

**IRTA**



**IRTA**

RECERCA I TECNOLOGIA  
AGROALIMENTÀRIES

- Non profit R+D  
Public company
- Created in 1985
- 5 areas of  
knowledgde

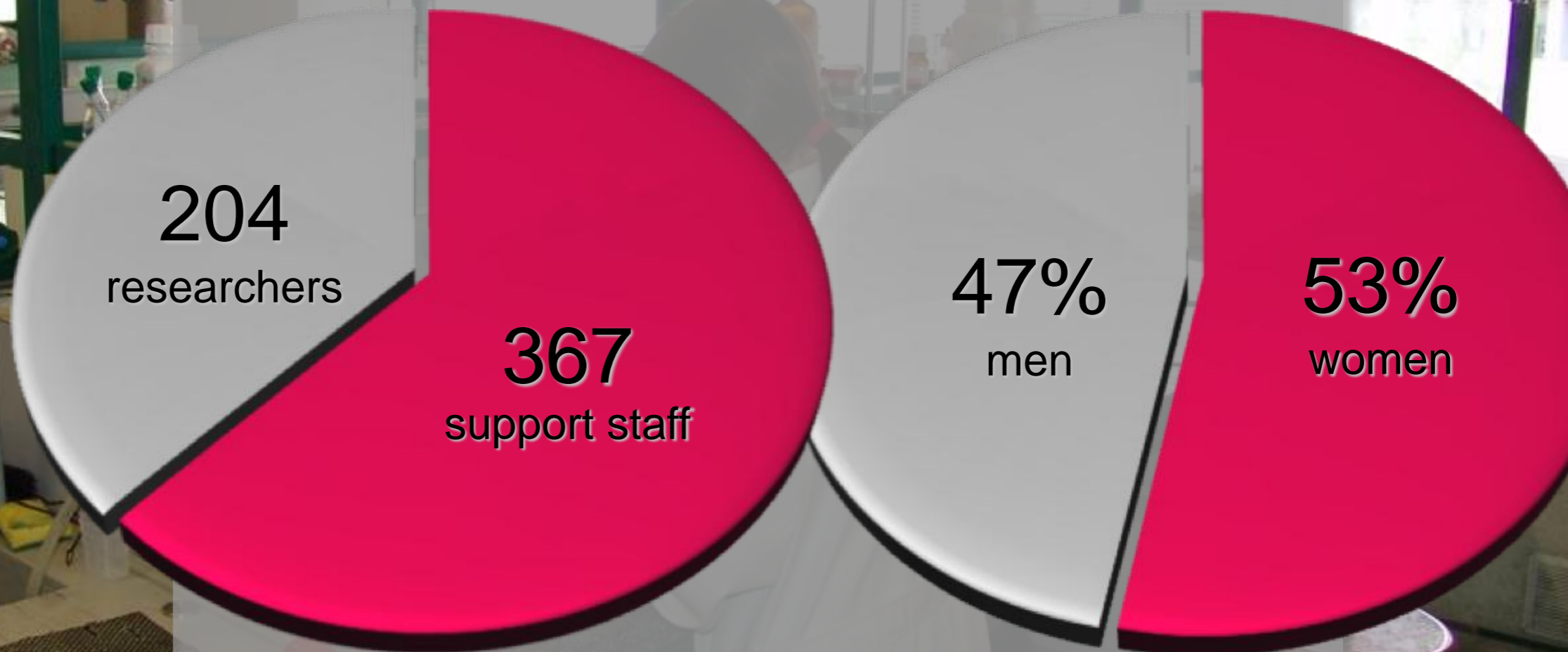




# Human Resources

**571** staff

Distributed in our 21 locations



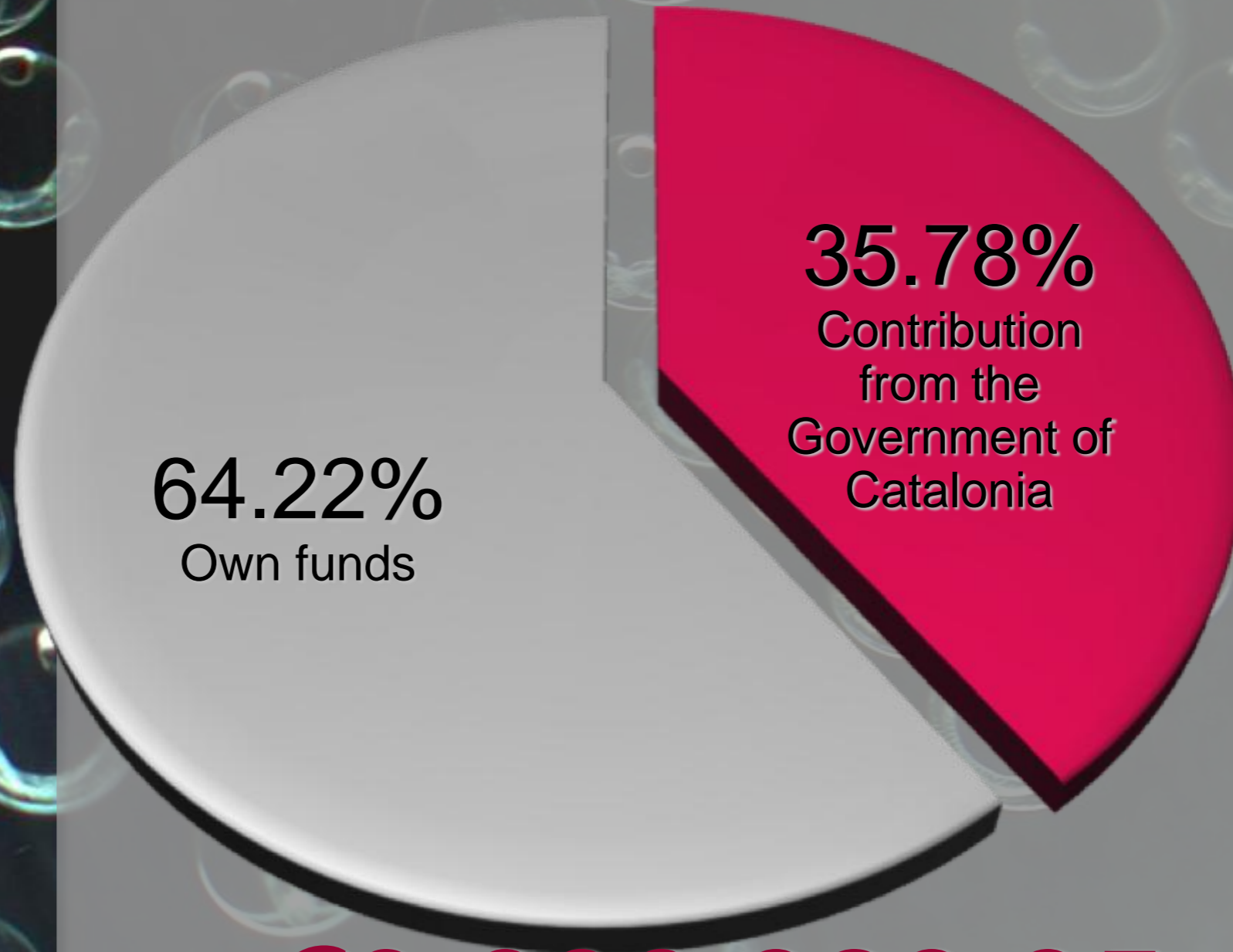
Our cooperative system relies on a total of

**1.105** people

# Resources

€46.04 million

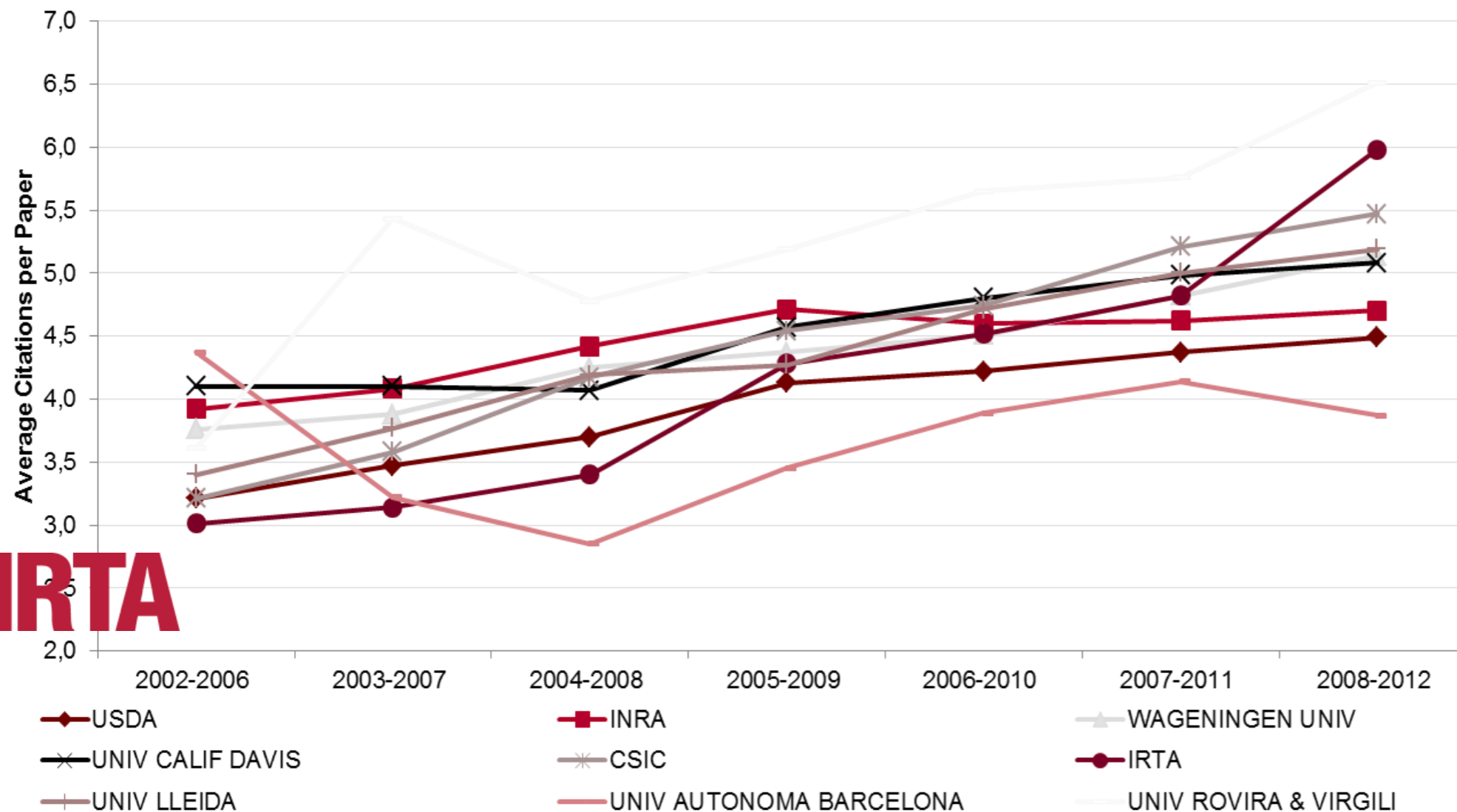
Total resources in 2011



+€9,686,828.35

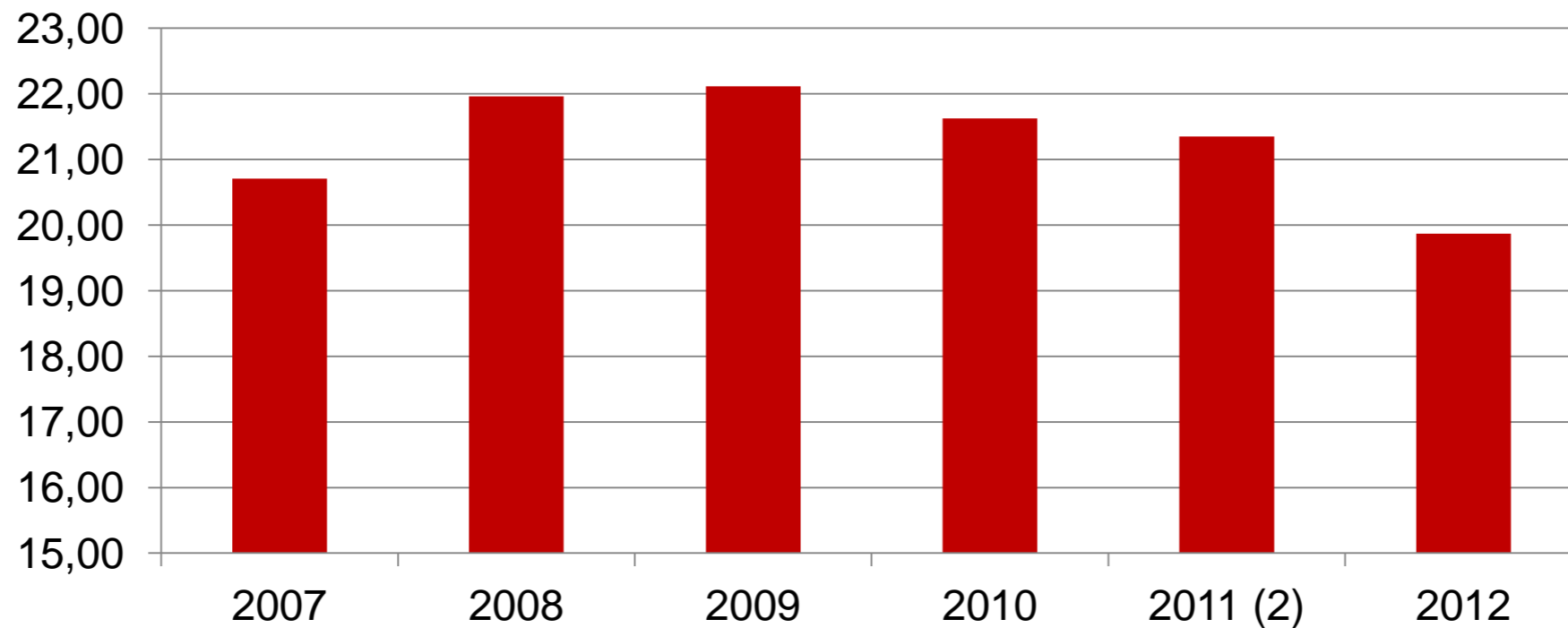
Invested in 2011





Font: ISI Essential Science Indicators. Citation Rankings. Average Citations per Paper (In 5-year Intervals) : The Y axis scale indicates the average number of citations received by the papers in the period. The X axis is broken down into seven overlapping five-year periods from left to right. Each five-year period is self-contained; that is, only citations within a time period to articles within that time period are counted. Note that the current year contains year-to-date data with the data being updated every two to four months. For example, the period 1997 - 2001 counts papers in the database for each full year (1997 through 2001) and cumulates citations to these papers from all citing items from 1997 through 2001. Thus, each successive time period is defined by a similar five-year time window to form the series.





**ALLOCATION budget 2010:**

**25.1 M€**

**Real ALLOCATION 2012:**

**19.8 M€**

**DIFFERENCE:**

**5.2 M€**

# IRTA

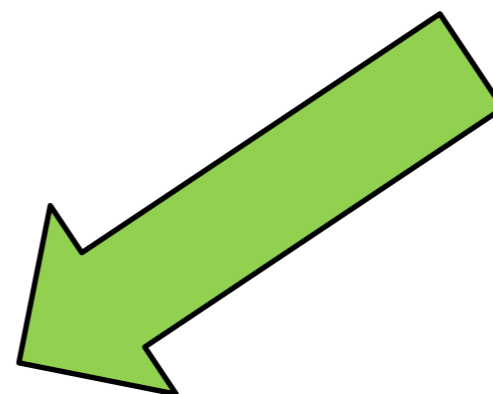
# Fruit Breeding Program







FRUIT *Futur* AIE

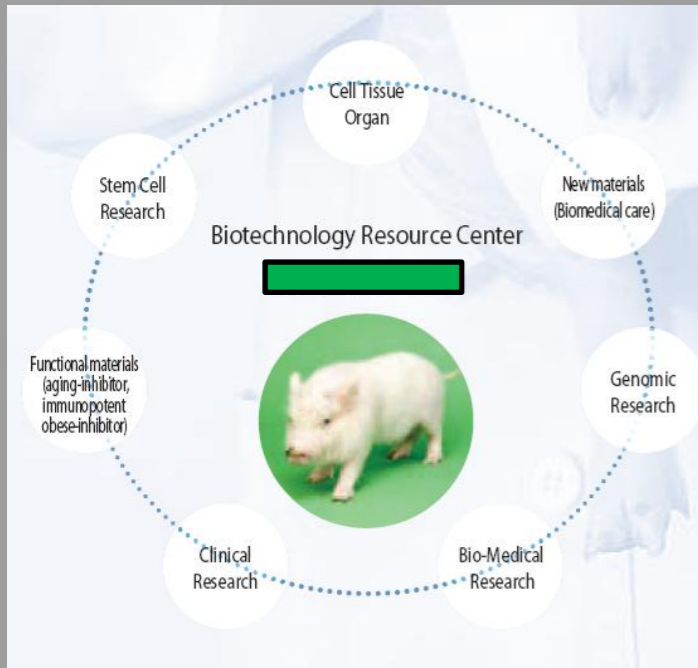


ASF

**500,000 € / year**

 Generalitat de Catalunya Departament d'Agricultura, Ramaderia, Pesca, Alimentació i Medi Natural	45%
<b>IRTA</b>	25%
<b>FRUIT <i>Futur</i> AIE</b>	30%

- 9 top performance and environment adapted varieties registered so far
- Private Promoters will have priority access to these varieties
- The breeding program produces new varieties each year
- Growing interest in southern hemisphere countries to exploit the material
- Royalties will be re-invested in continuing the program and no additional finance will be necessary



- **Specific-pathogen free:** A term that is applied to animals reared for use in laboratory experiments which indicates that the animals are known to be free of germs that can cause disease. Abbreviated SPF

# SPECIFIC



# IRTA

# APA PROCESSING



## APAPROCESSING

HIGH PRESSURE PROCESSING

<http://apaprocessing.com/en/>



nc  
Hyperbaric

centa  
CENTRE DE NOVES TECNOLOGIES  
I PROCESSOS ALIMENTARIS

IRTA  
azti  
tecnalia

elCONSORCI  
barcelona ZONA FRANCA

NOEL



2007-  
2010

2010-  
2011

2012

## Tech. Transfer



# APAPROCESSING



- 3 partners
- 1 patent



# IRTA

## ORDESA JOINT RESEARCH UNIT





1. The role of Common Agricultural policy funding innovation is extremely important
2. Innovation is also a good incentive for Rural development
3. Technology transfer structures are obsolete
4. Enhancing creativity leads to more innovation.
5. Programs should be focused to SMEs
  - In need of funding
  - Slim or none innovation capacities
  - Including human resources

6. Small innovation for multi actors not necessarily linked to high end technology (e.g. Irrigation good practices has high return)
7. In exchange: let's finance project that combine and transpose successful implementation of high technology in other fields, to agriculture (e.g photonics into agriculture)
8. Demonstration projects
9. Co financing is important

## One more thing

- People is the key to success.
- Let's recruit the best professionals available.
- We need policies devoted to adequate train for researchers, innovators, technology transfer officers and managers addressed to produce innovations constantly



THANK YOU VERY MUCH  
MOLTES GRÀCIES!!

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