



Machine Vision in Spain

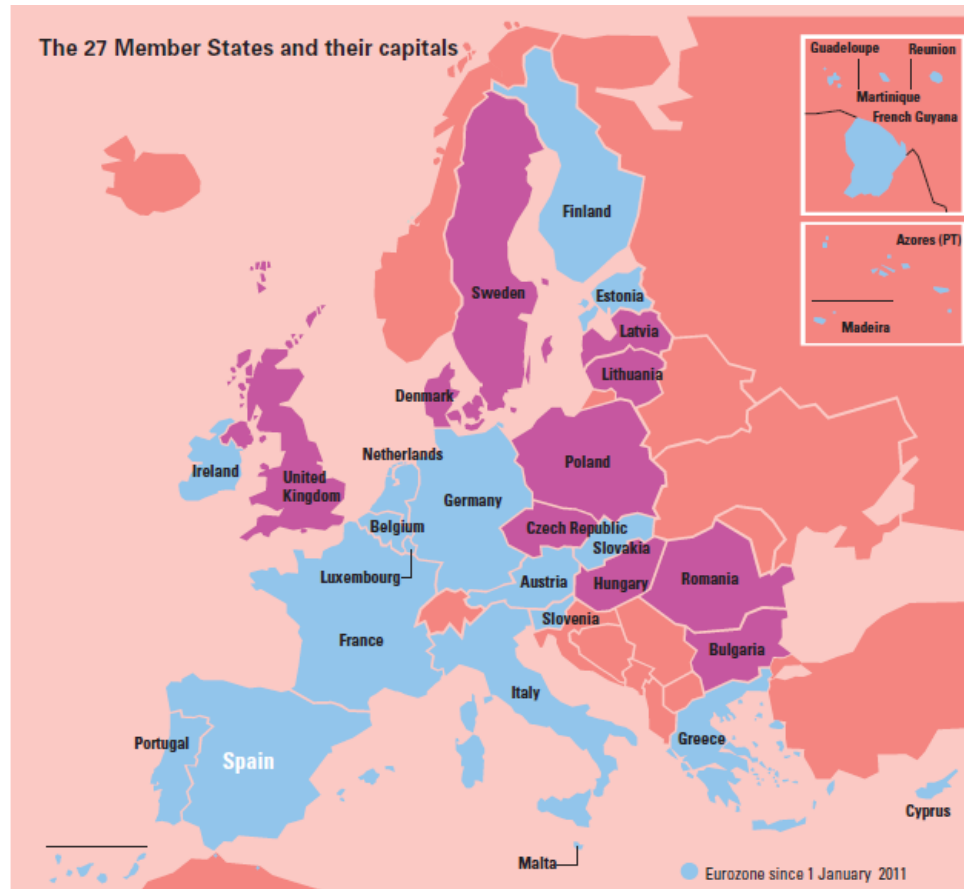
by

Toni Ventura - Traveset

DataPixel



Where is Spain?



How big is Spain?

Territory & Demography

Spain and the EU-27

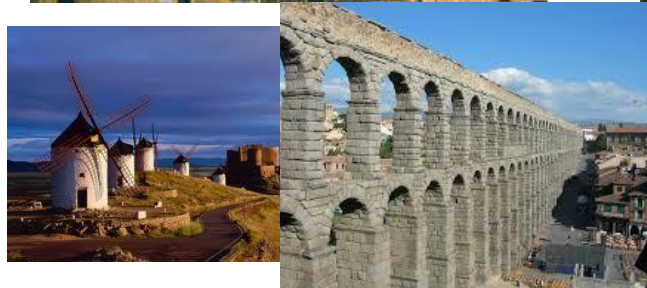
	Area 2008* (km ²)	Population**at 1 January 2011 (thousands)	Population density*** (inhabitants per km ²)
EU-27	4,403,537	502,504.0	114.1
Austria	83,879	8,404.3	100.2
Belgium	30,528	10,951.7	358.7
Bulgaria	111,002	7,504.9	67.6
Cyprus	9,250	804.4	87.0
Czech Republic	78,867	10,532.8	133.6
Denmark	43,098	5,560.6	129.0
Estonia	45,227	1,340.2	29.6
Finland	338,419	5,375.3	15.9
France	632,834	65,075.4	102.8
Germany	357,108	81,751.6	228.9
Greece	131,957	11,309.9	85.7
Hungary	93,028	9,985.7	107.3
Ireland	69,797	4,480.9	64.2
Italy	301,336	60,626.4	201.2
Latvia	64,559	2,229.6	34.5
Lithuania	65,300	3,244.6	49.7
Luxembourg	2,586	511.84	197.9
Malta	316	417.6	1,321.6
Netherlands	41,543	16,655.8	400.9
Poland	312,685	38,200.0	122.2
Portugal	92,090	10,637.0	115.5
Romania	238,391	21,413.8	89.8
Slovakia	49,035	5,435.3	110.8
Slovenia	20,273	2,050.2	101.1
Spain	505,991	46,152.9	91.2
Sweden	441,370	9,415.6	21.3
United Kingdom	243,069	62,435.7	256.9

EU-27

2nd in territory

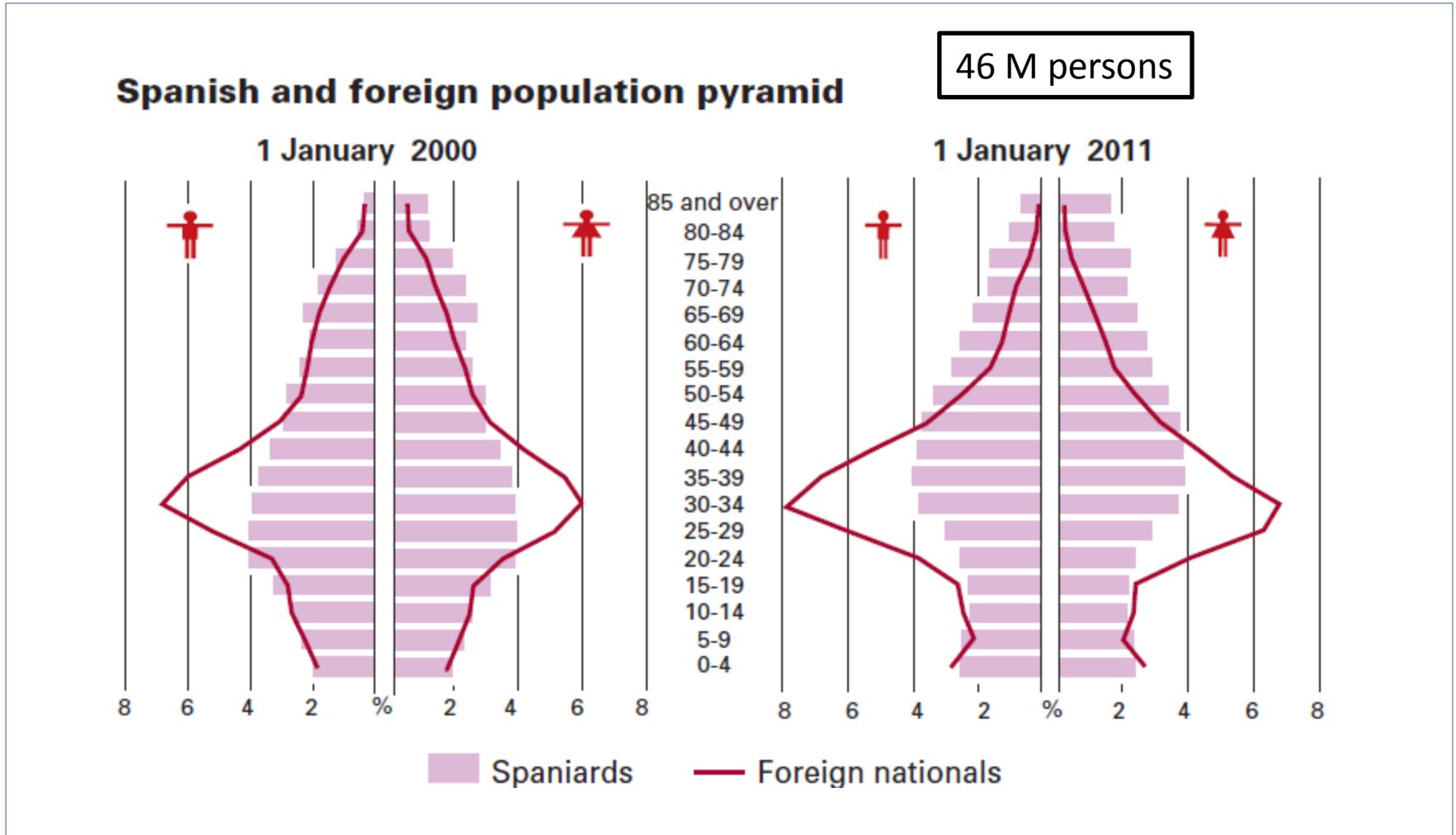
5th in population

How is Spain?

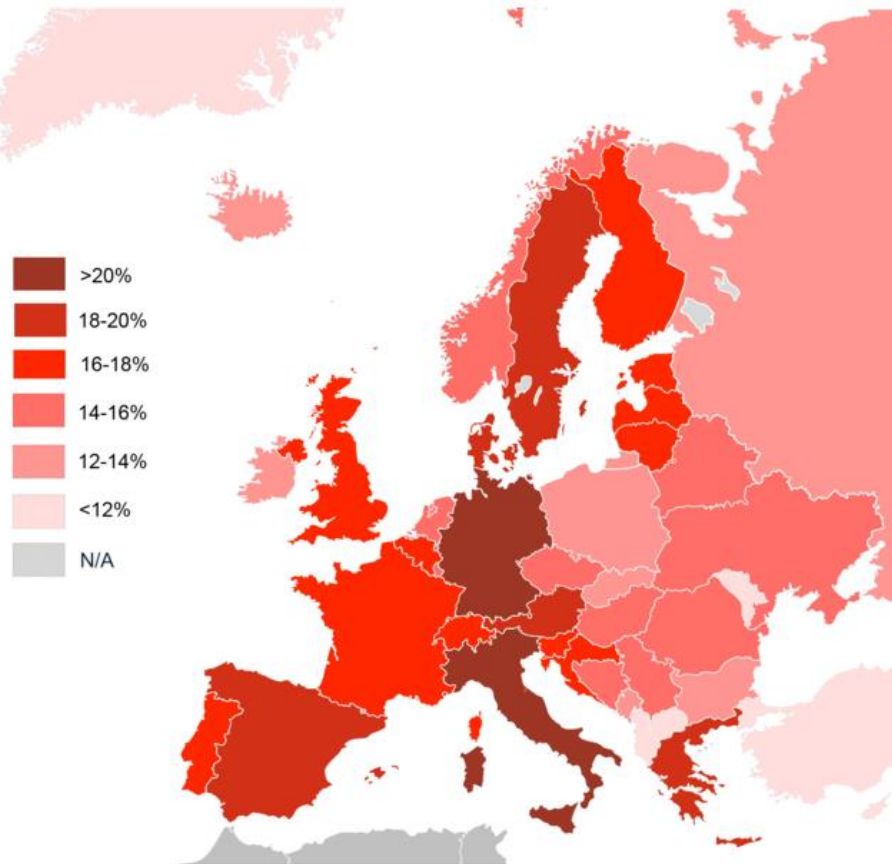


Who lives in Spain?

Demography



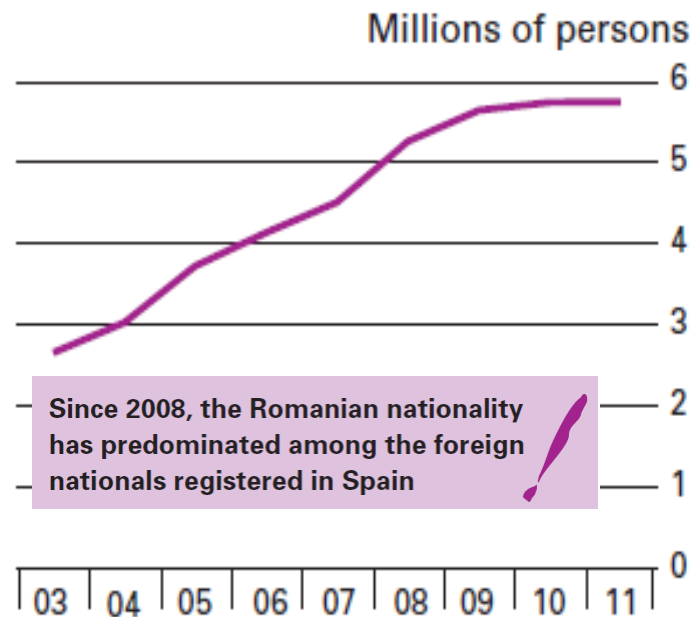
Demography



Population over 65



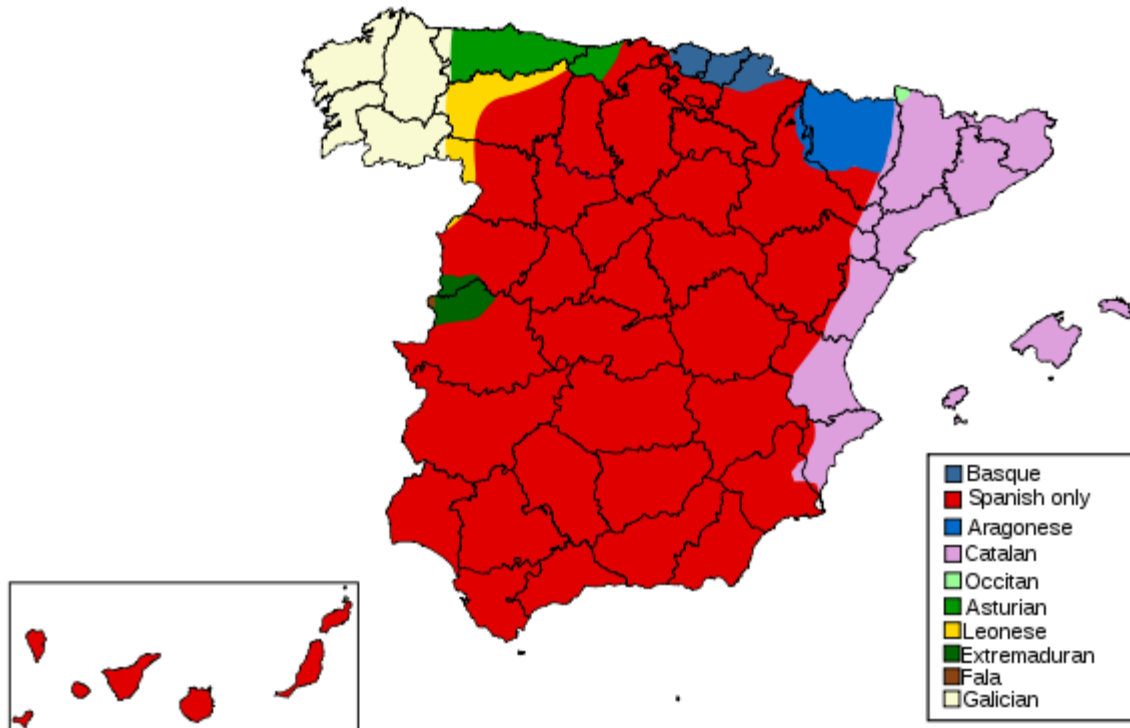
Registered foreign population



Spanish Autonomies



Languages



Salaries

SPAIN Mean salary: 21.500 €

Germany: 41.000 €

UK: 46.000 €

Hungary: 10.000 €

Salaries of Engineers:

Director of plant: 70.000 €

Production Director: 50.000 €

Project manager: 45.000 €

Engineer Junior: 25.000 €

The Best of Spain?

The Best



Euro 2012



Handball World Champion 2013



Best restaurant in the world
El Celler de Can Roca
Girona



Best Airport Restaurant in the world
Porta Gaig (Barcelona Airport)



Best Business School
In Europe
(Financial Times 2012)

The 2nd Best



2nd country in the world
Wellbeing of Children (Children Development index)



2nd country in the world with more biosphere
reserves

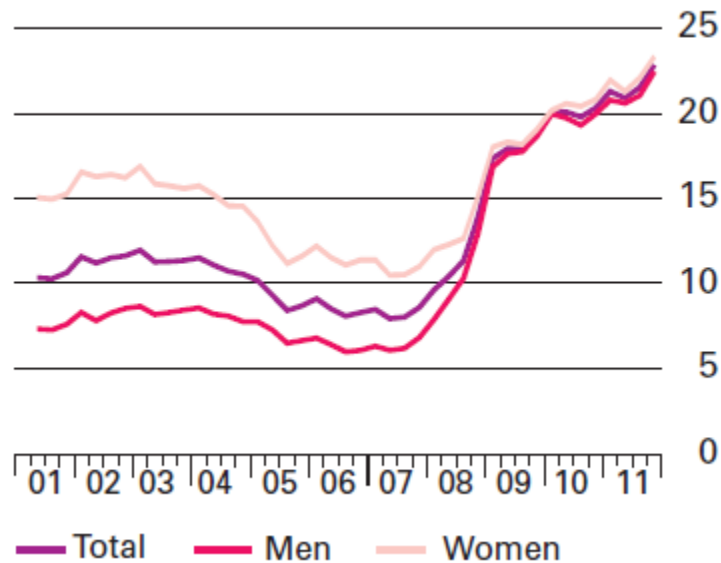


2nd most represented country on the list of World
Heritage Sites of UNESCO

The Worse of Spain?

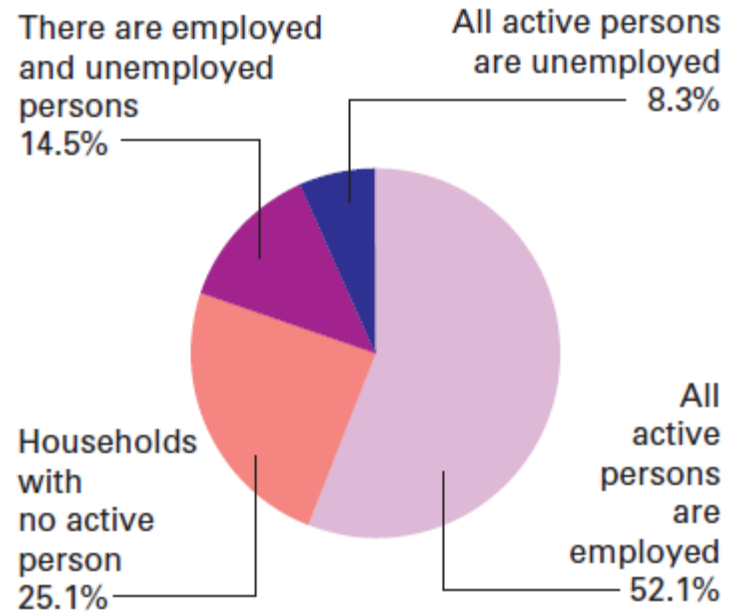
Unemployment

Unemployment rate (%)

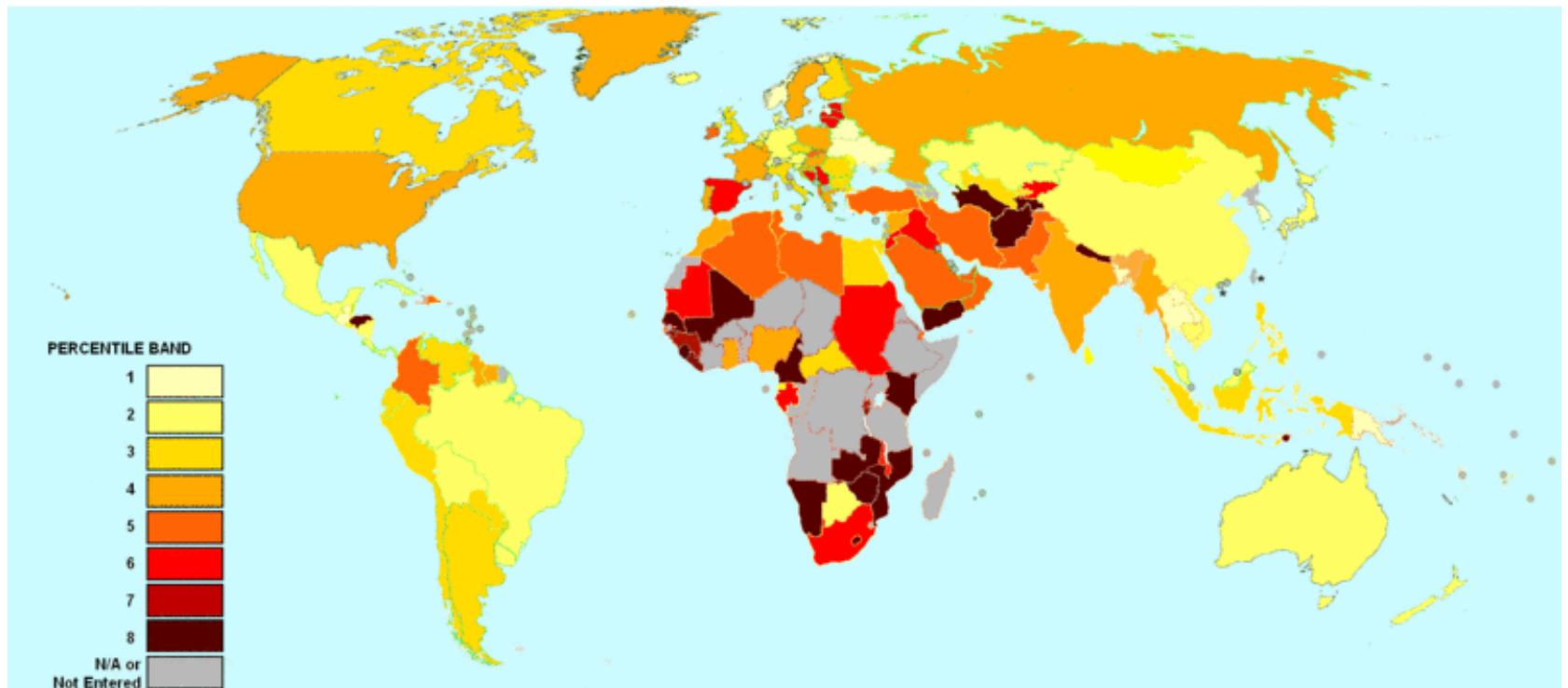


2013: 27% - 6 M Unemployed persons!!

Households as related to economic activity. 2011



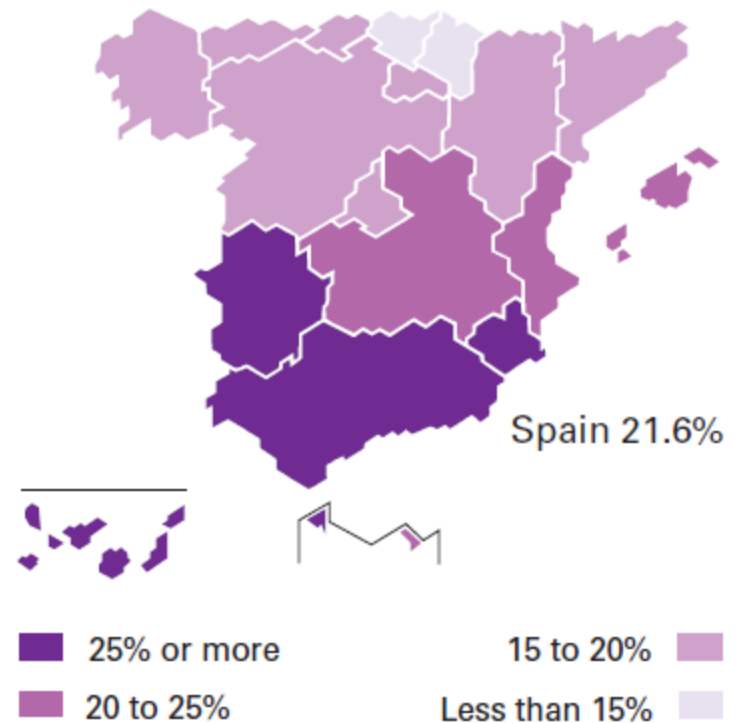
Unemployment



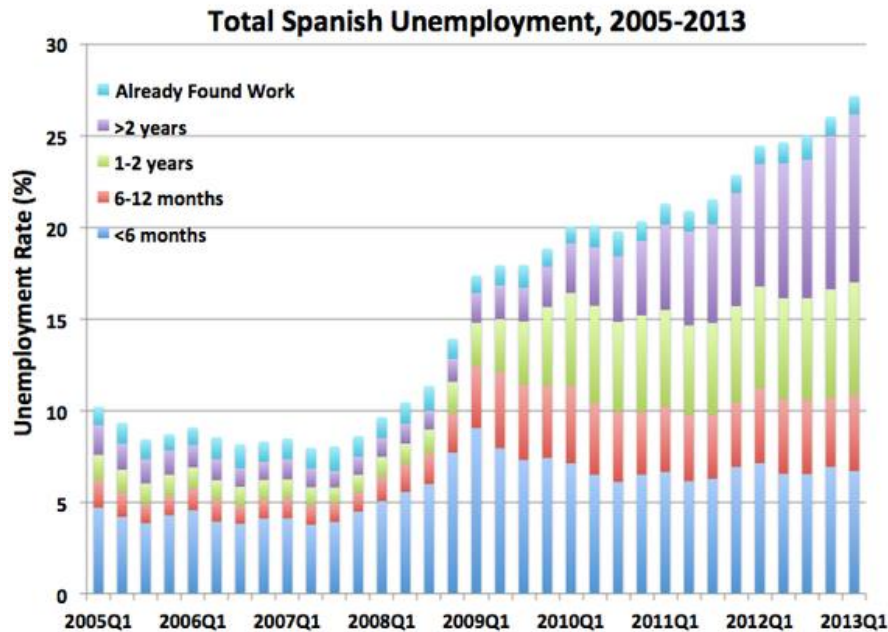
Employed persons, by economic sector. 2011

	%	Interannual variation %
Total	100.0	-1.9
Services	74.0	0.0
Industry	14.1	-2.1
Construction	7.7	-15.6
Agriculture	4.2	-4.1

Unemployment rate. 2011



Why so high unemployment?

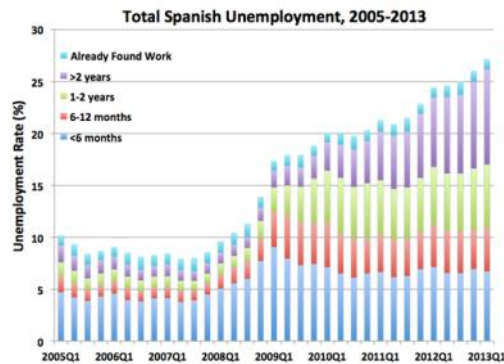


2013: 27% - 6 M Unemployed persons!!

- 1- Construction – housing bubble
- 2- Lack of flexible labor market
- 3- Lack of economical grow

Why so high unemployment?

2013: 27% - 6 M Unemployed persons!!



Education

Low predisposition to change type of job working place

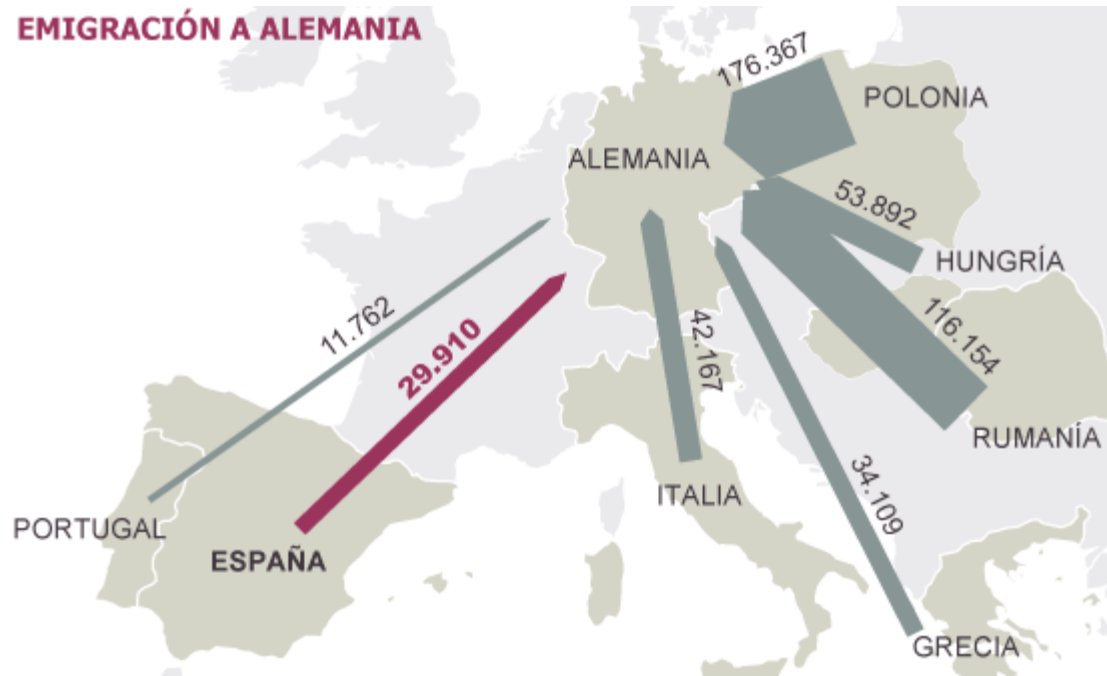


Lack entrepreneurial spirit



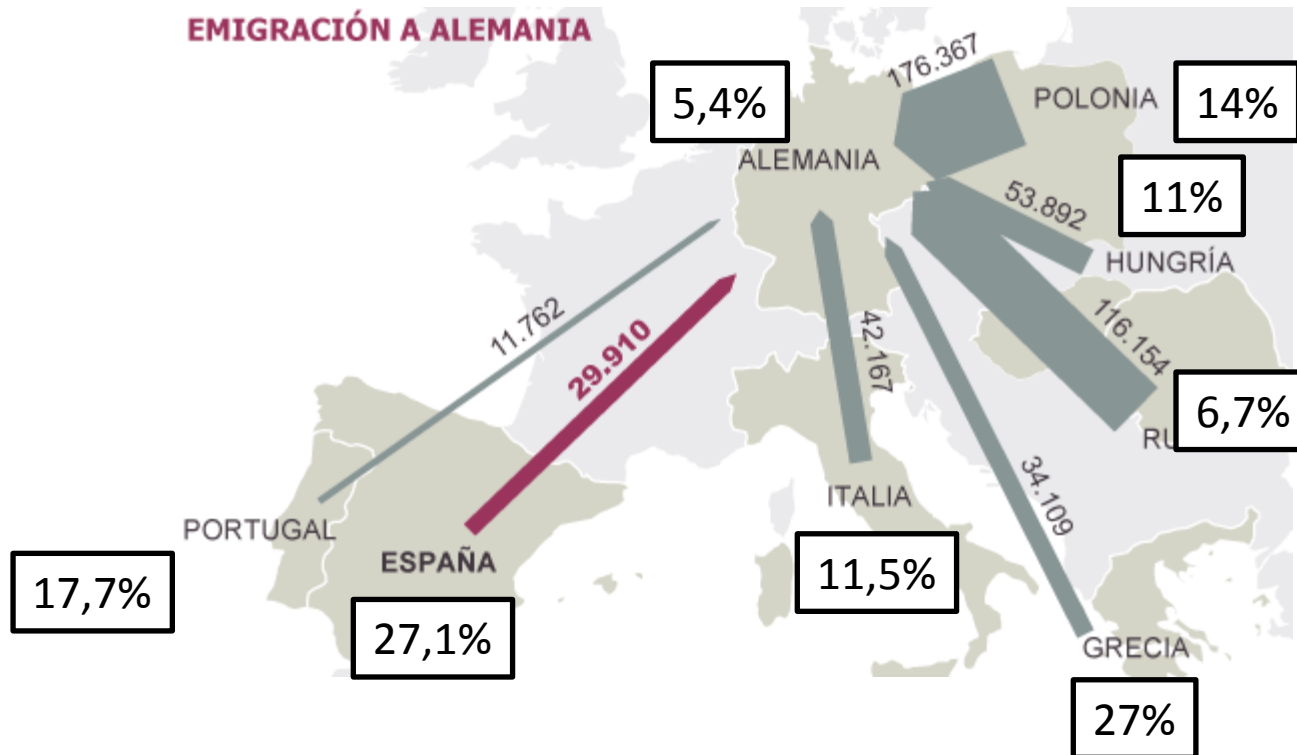
Why so high unemployment?

2013: 27% - 6 M Unemployed persons!!



Why so high unemployment?

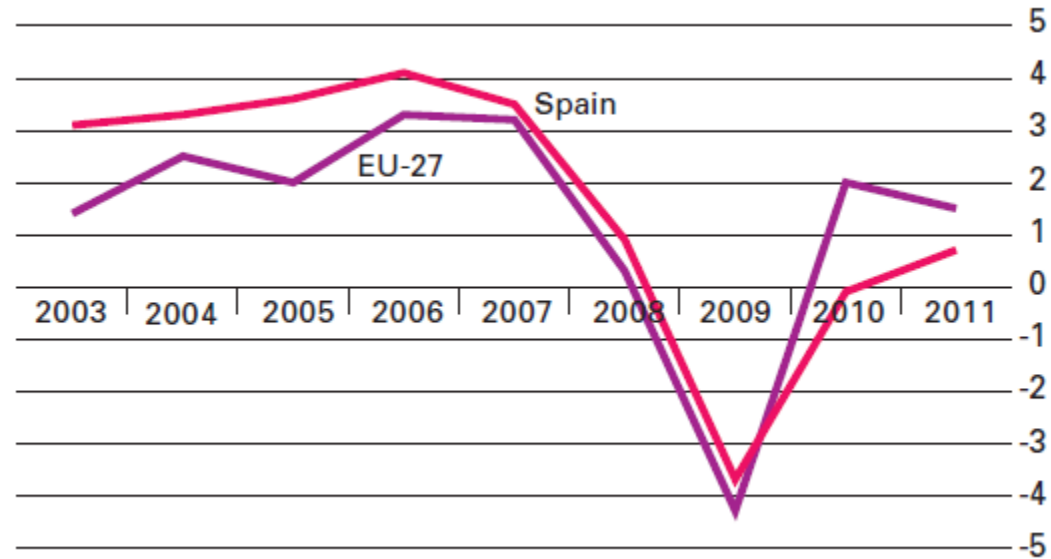
2013: 27% - 6 M Unemployed persons!!



Spanish Economy?

GDP 2012: 1,073,383 M €

Variation rate of GDP in volume



Source: Eurostat

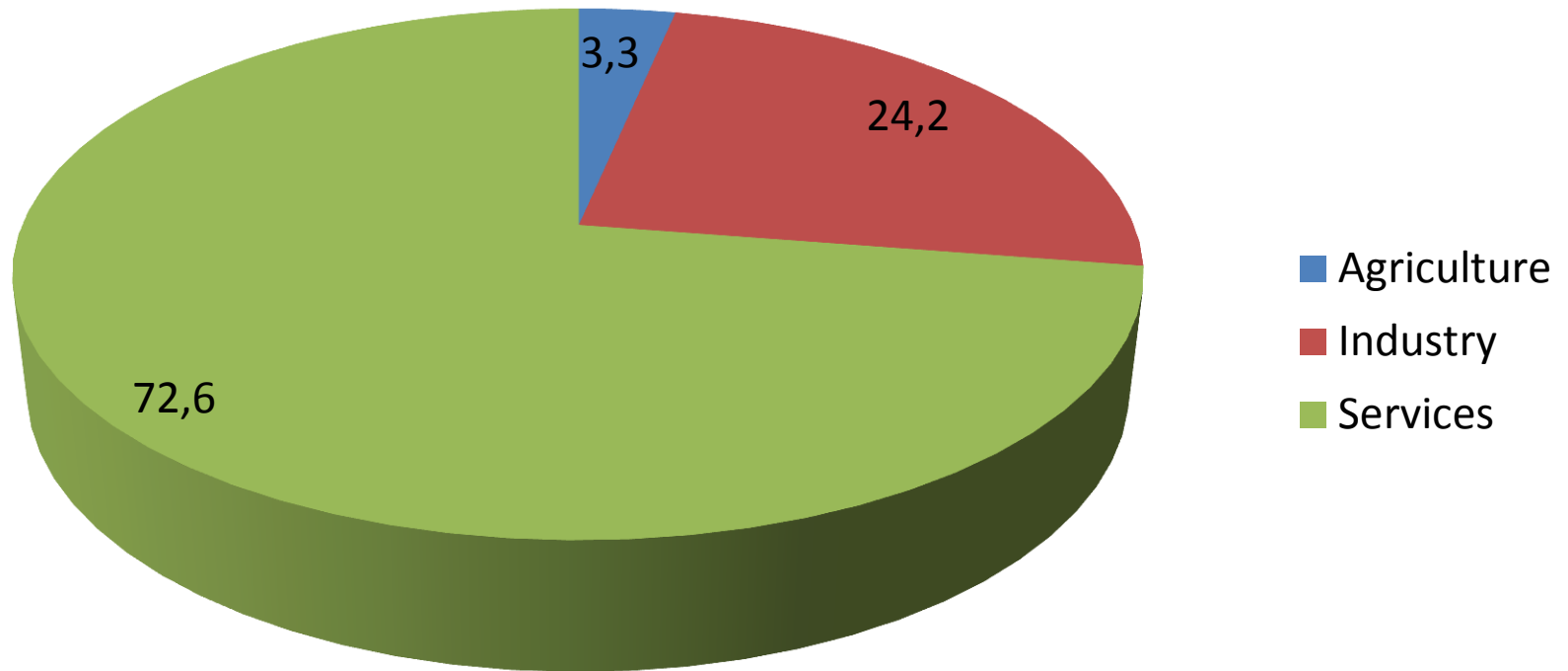
GDP per inhabitant on Purchasing Power Parity. 2010

	% of EU-27
Luxembourg	271
Netherlands	133
Denmark	127
Ireland	127
Austria	126
Sweden	124
Belgium	119
Germany	118
Finland	115
United Kingdom	112
France	108
Italy	101
EU-27	100
Spain	100
Cyprus	99
Greece	90
Slovenia	85
Malta	83
Czech Republic	80
Portugal	80
Slovakia	73
Hungary	65
Estonia	64
Poland	63
Lithuania	57
Latvia	51
Romania	47
Bulgaria	44

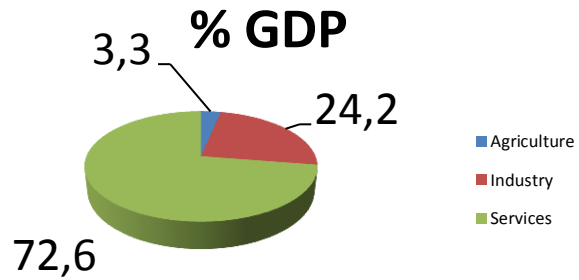
23.000 Eur

Economy sectors

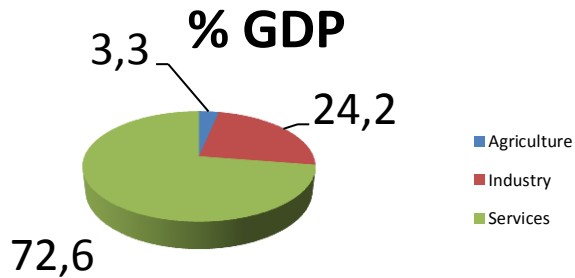
% GDP



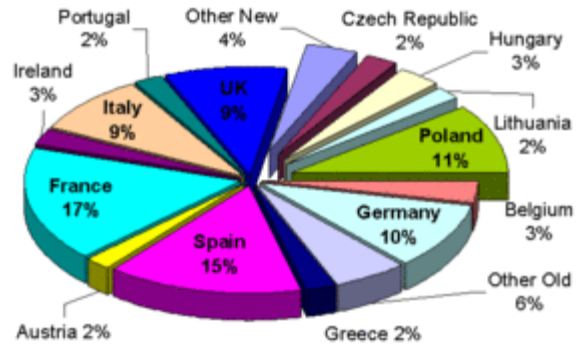
Services



Agriculture



Percentage of EU Farm Land by Country



Industry



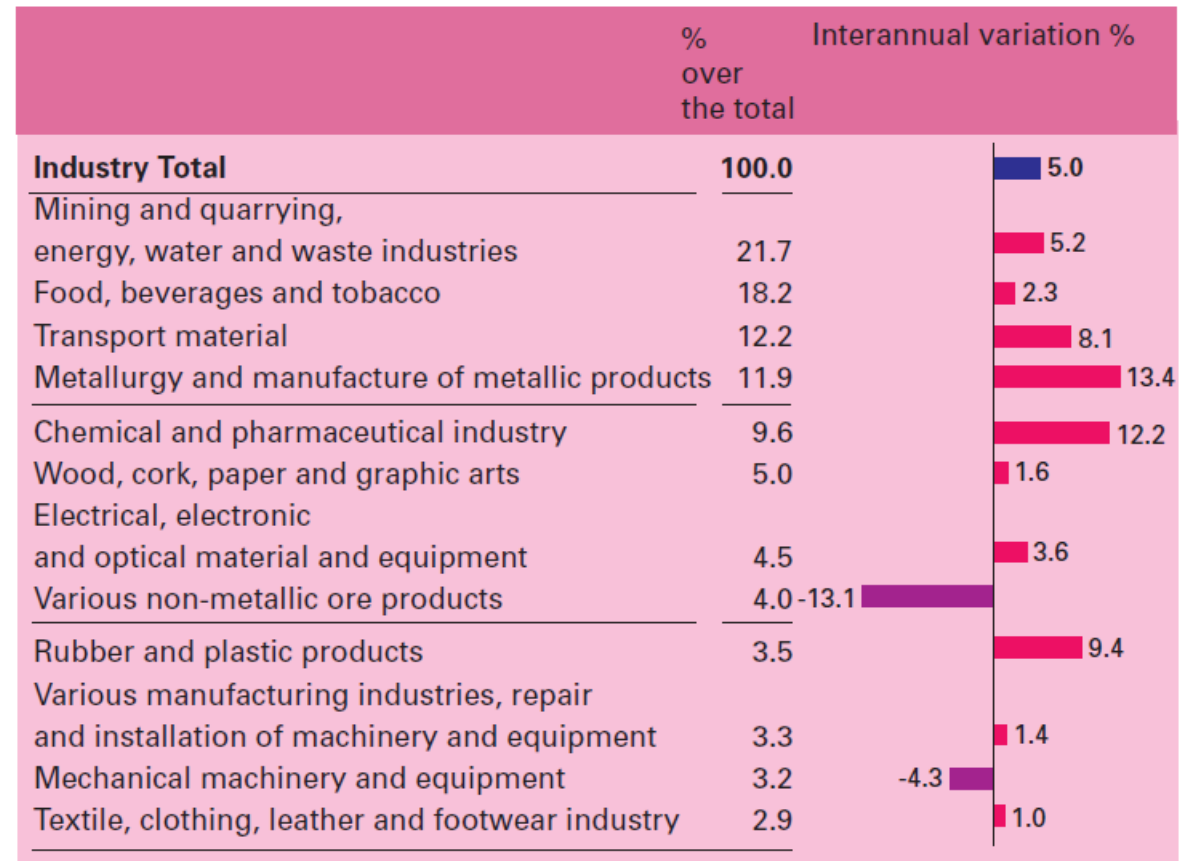
Industrial turnover

Industrial turnover. 2009

(% of the total)

Country	Turnover (%)
EU-27	100.0
Germany	27.2
Italy	13.7
France	13.0
United Kingdom	9.5
Spain	6.9
Netherlands	4.8
Poland	3.5
Belgium	3.0
Austria	2.4
Sweden	2.3
Czech Republic	2.1
Finland	1.8
Ireland	1.5
Hungary	1.4
Portugal	1.2
Romania	0.9
Greece	0.8
Slovakia	0.8
Luxembourg	0.5
Bulgaria	0.4
Slovenia	0.3
Lithuania	0.2
Estonia	0.1
Latvia	0.1
Cyprus	0.1
Denmark	0.0
Malta	:

Turnover, by activity group. 2010



How is MV in Spain?

How is MV in Spain?



How is MV in Spain?



BAD

How is MV in Spain?



How is MV in Spain?

BAD

NOT BAD

How is MV in Spain?



How is MV in Spain?

BAD

NOT BAD

CAN BE BETTER

How is MV in Spain?

BAD

NOT BAD

CAN BE BETTER

How is MV in Spain?



BAD

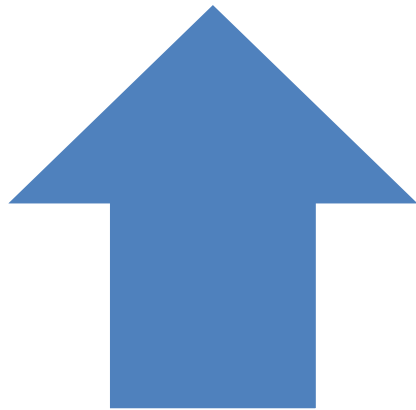
Size?

Tiny market

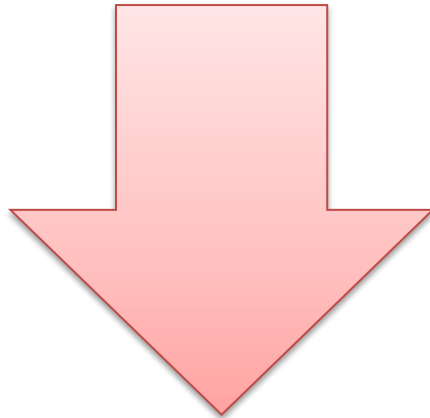


- MV Market Size: 50 M Euros (estimation TV)
- Number of companies: ≈ 60 companies (estimation TV)
- Sectors:
 - Automotive
 - Packaging & Food
 -  – Agriculture
 - Farmaceutical
 - Surveillance
 - Glass
 - Wood
 -  Electronics

Customer types

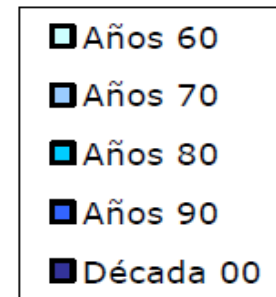
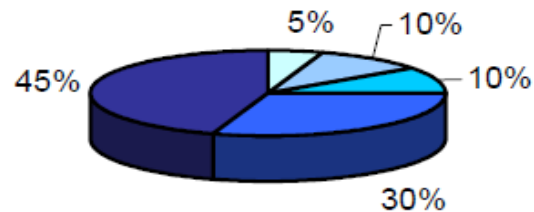
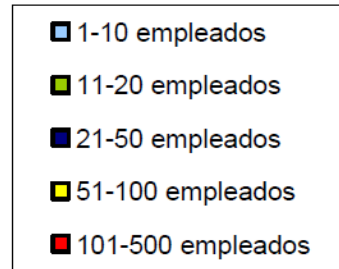
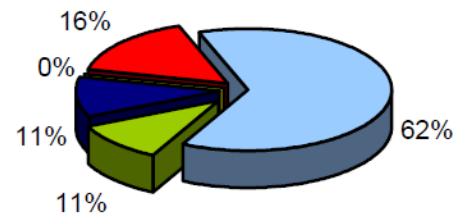


Mostly End Users,
Some Integrators,
Few Distributors



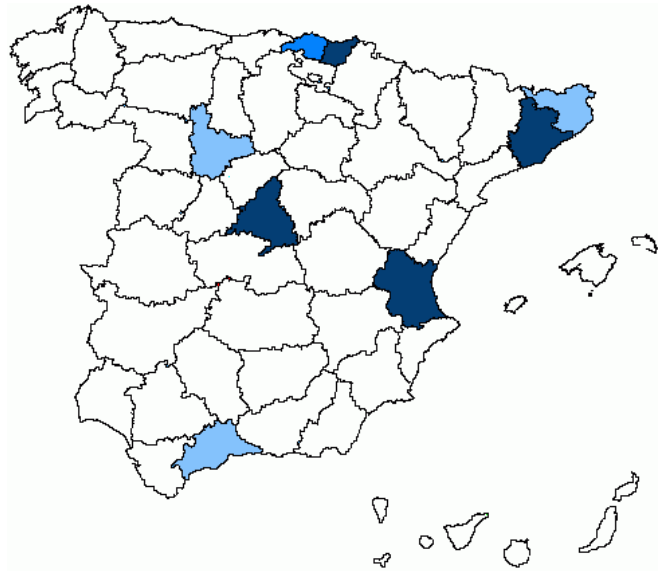
Very few OEM

Tiny companies

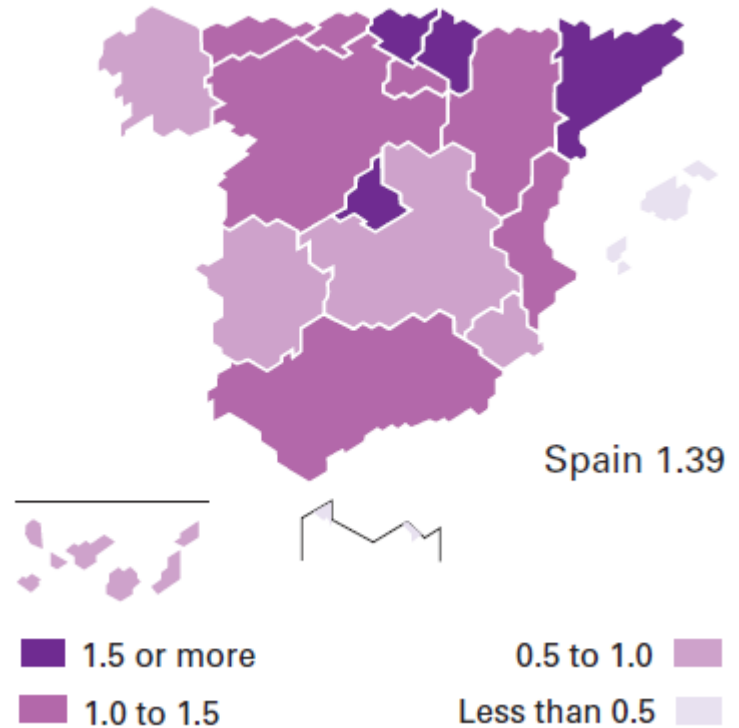


Source: La visión artificial: una oportunidad (Escuela de negocios Caixanova)

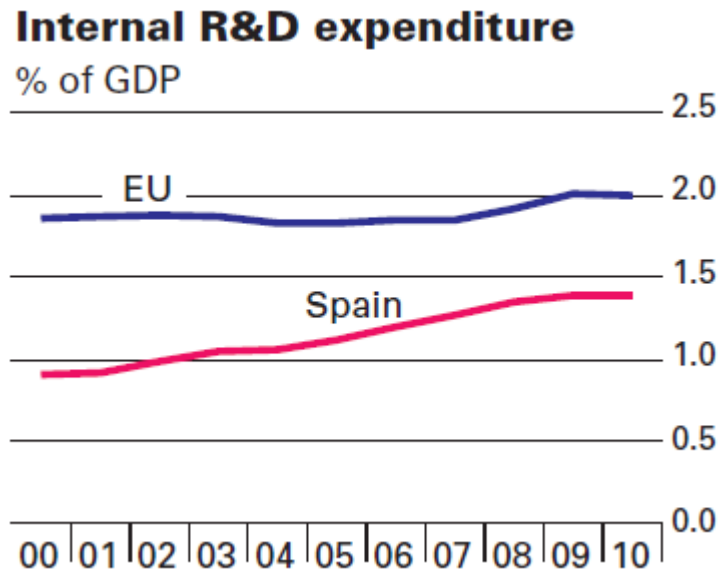
MV Regions



Internal R&D expenditure. 2010
% of regional GDP



Source: La visión artificial: una oportunidad (Escuela de negocios Caixanova)

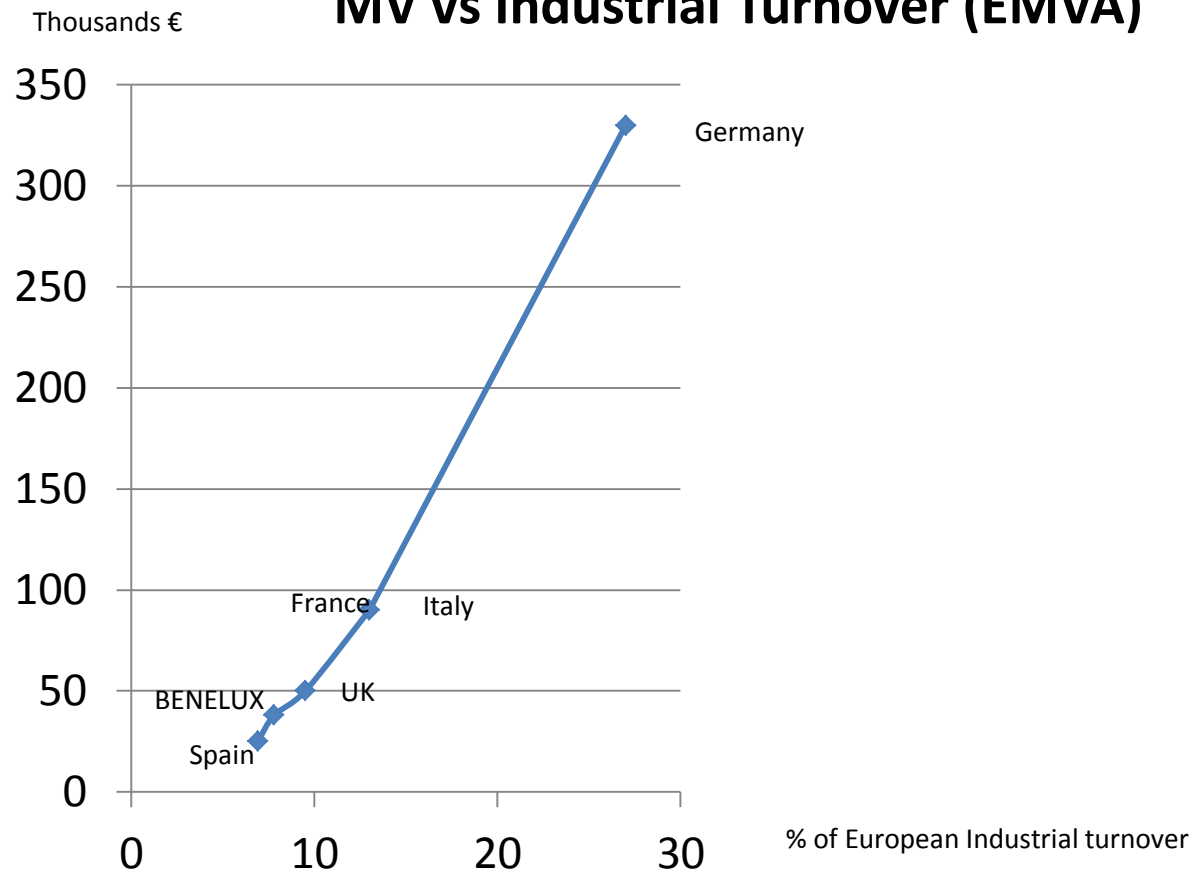


How is MV in Spain?

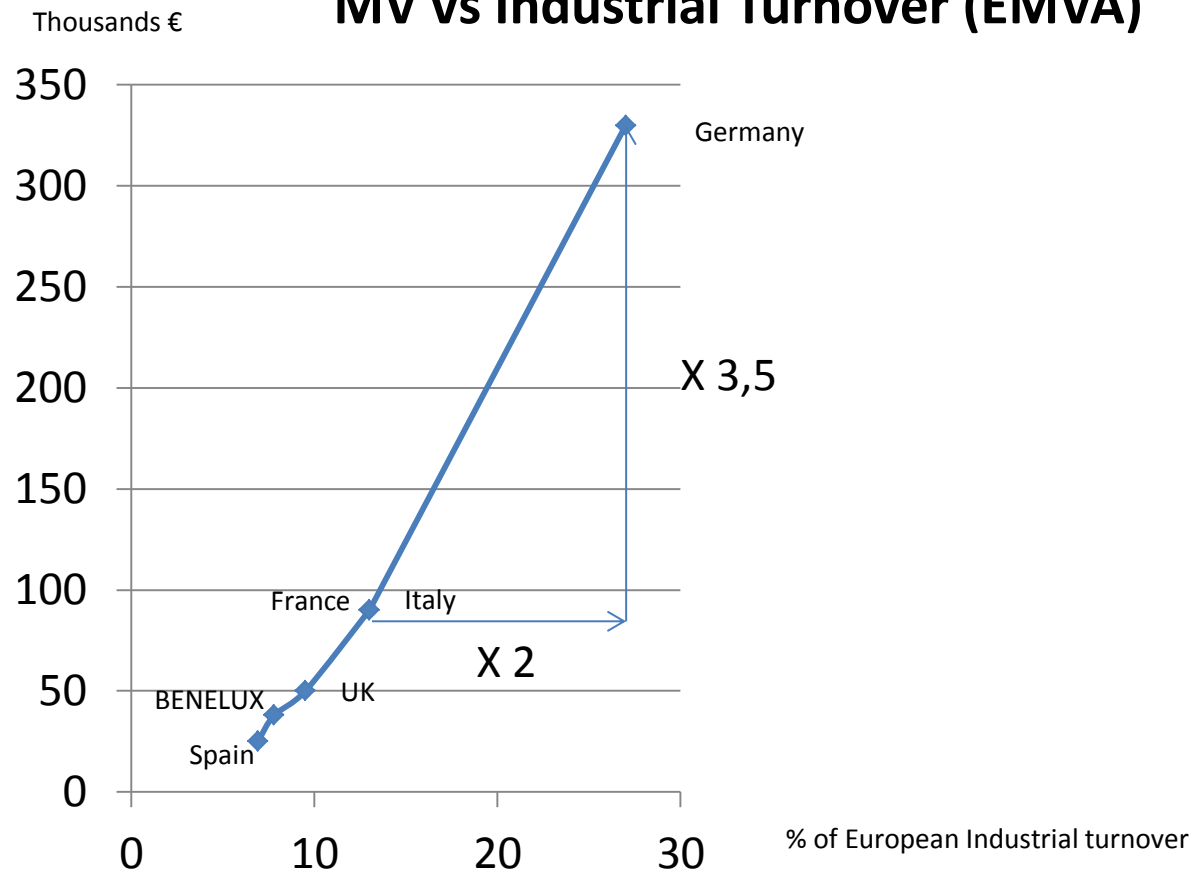
BAD

NOT BAD

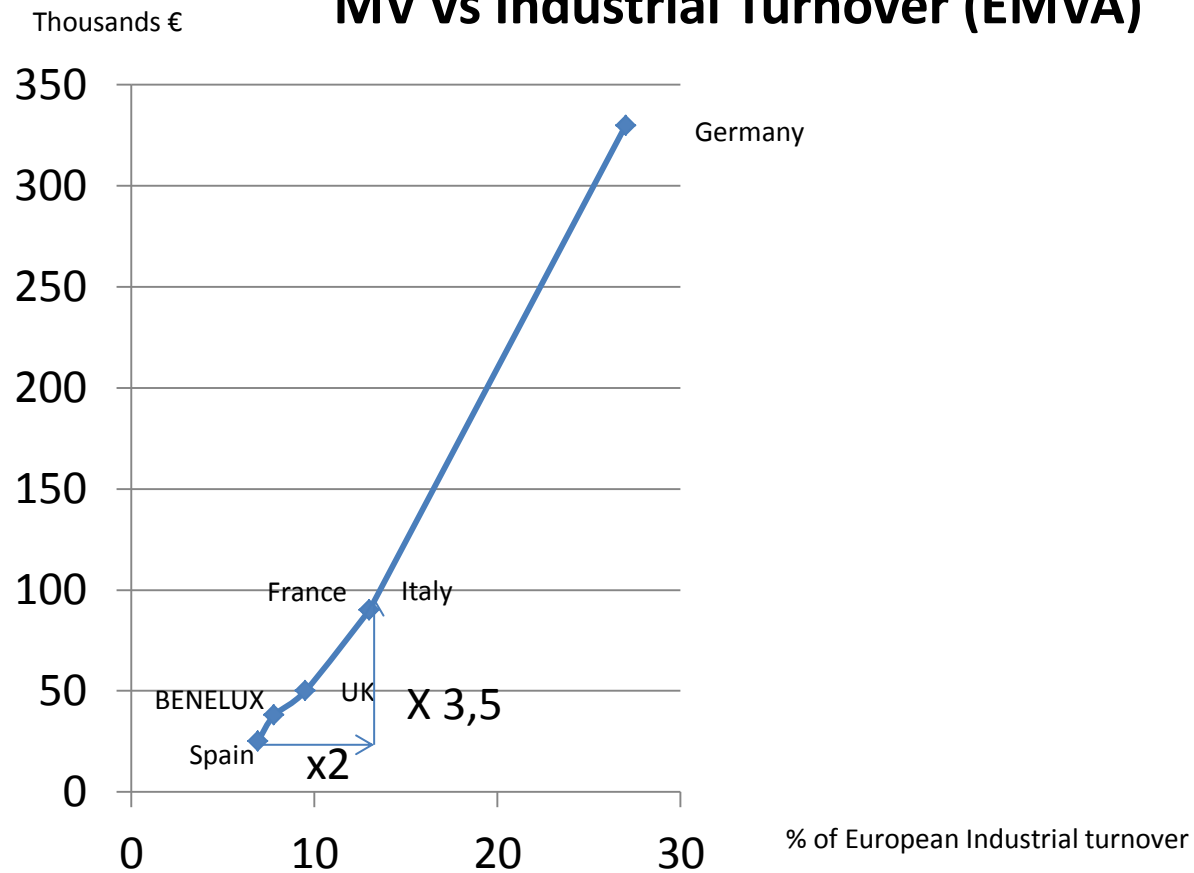
MV vs Industrial Turnover (EMVA)



MV vs Industrial Turnover (EMVA)



MV vs Industrial Turnover (EMVA)



International MV



Machine vision in non-industrial sector

≈ 30 M € (estimated)



AGROBOT	EASYCONTROL SL	NEXPERT
AICOM	EINES SYSTEMS	OMRON
AIDIMA	FESTO	PANASONIC
ALAVA INGENIEROS	ICAR	PYSSA
ANAPESING	IKUSMEN	RC SEA VISION
AQSENSE	IMAGINA VISION ARTIFICIAL	RIBINERF
ASIRIS VISION TECHNOLOGIES	INDUSVISION ROBOTICS	SENSOFAR
AVISTA TECHNOLOGIES	INFAIMON	SICK
BCB INFORMATICA Y CONTROL	INNOVAE VISION	SIVART SL
BCN <u>VISION (COGNEX)</u>	INSPECTA SL	SOLEX VISIÓN
BIOSYS	INTEGRACION DE SISTEMAS DE VISIÓN SL	STT
BITMAKERS	INVAR INGENIERÍA	TECNALIA
CONTROL Y VISION ARTIFICIAL	IVIA	UNITRONICS
DATAPIXEL	JASVISIO	VISIOMATICA
DAVANTIS	LAZPIUR	VISION HI-TECH MACHINES
DCM SISTEMES	LYNX VISION	VISION ON-LINE SL
DIVA SL	MAPS INFORMATICA INDUSTRIAL	WIP PROYECTOS INDUSTRIALS
E2M	MULTISCAN TECHNOLOGIES	

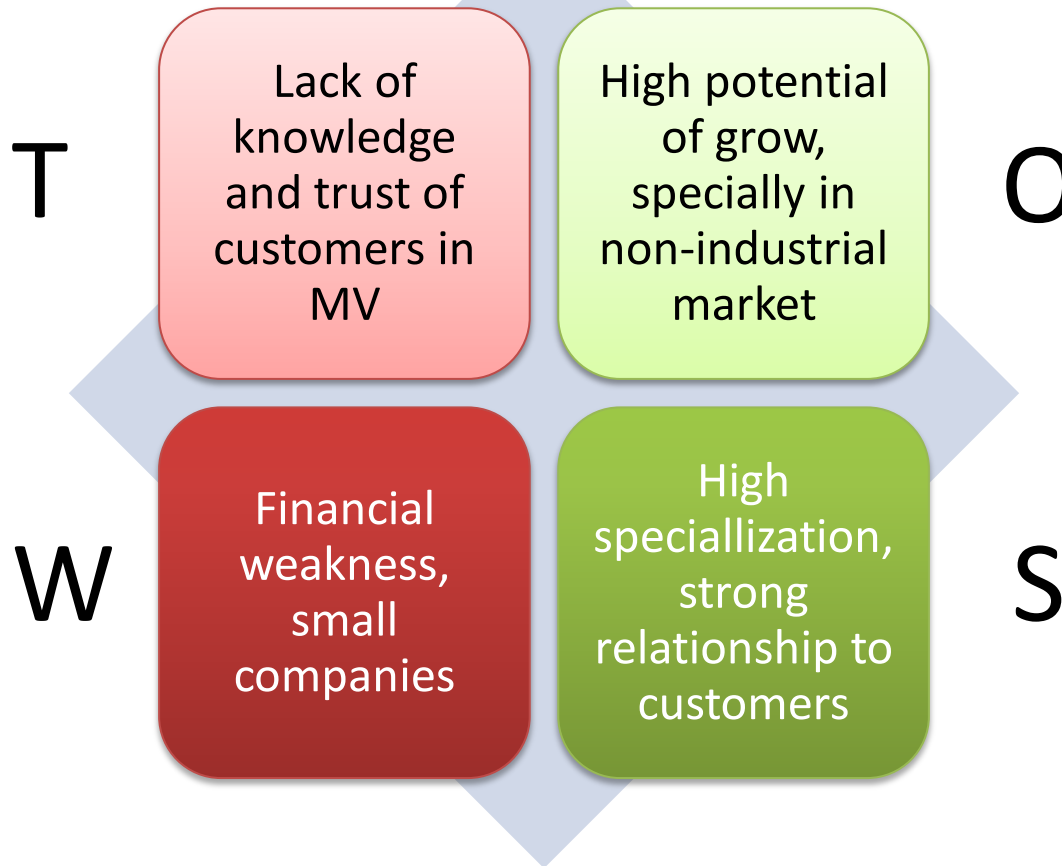
How is MV in Spain?

BAD

NOT BAD

CAN BE BETTER

SWOT



How to approach Spanish market?

Lack of knowledge

Lack of knowledge and trust of customers in MV

High potential of grow, specially in non-industrial market

Financial weakness, small companies

High speciallization, strong relationship to customers

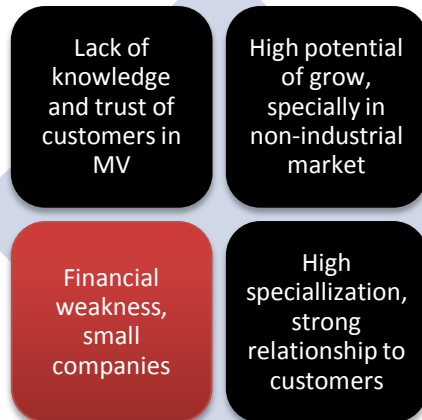
Dissemination and education in MV

Dissemination of successful projects

Dissemination activities in fairs, conferences



Financial Weakness



More cooperation between companies

Alliances, joint ventures

Better access to international markets

More cooperation with other sectors



PARTNERSHIP

Non-industrial apps

Lack of
knowledge and
trust of
customers in
MV

High potential
of grow,
specially in
non-industrial
market

Financial
weakness,
small
companies

High
specialization,
strong
relationship to
customers

High potential grow of non-industrial MV

Health, tourism, education, sports

Agriculture



Service + Product

Lack of knowledge and trust of customers in MV

High potential of grow, specially in non-industrial market

Financial weakness, small companies

High specialization, strong relationship to customers

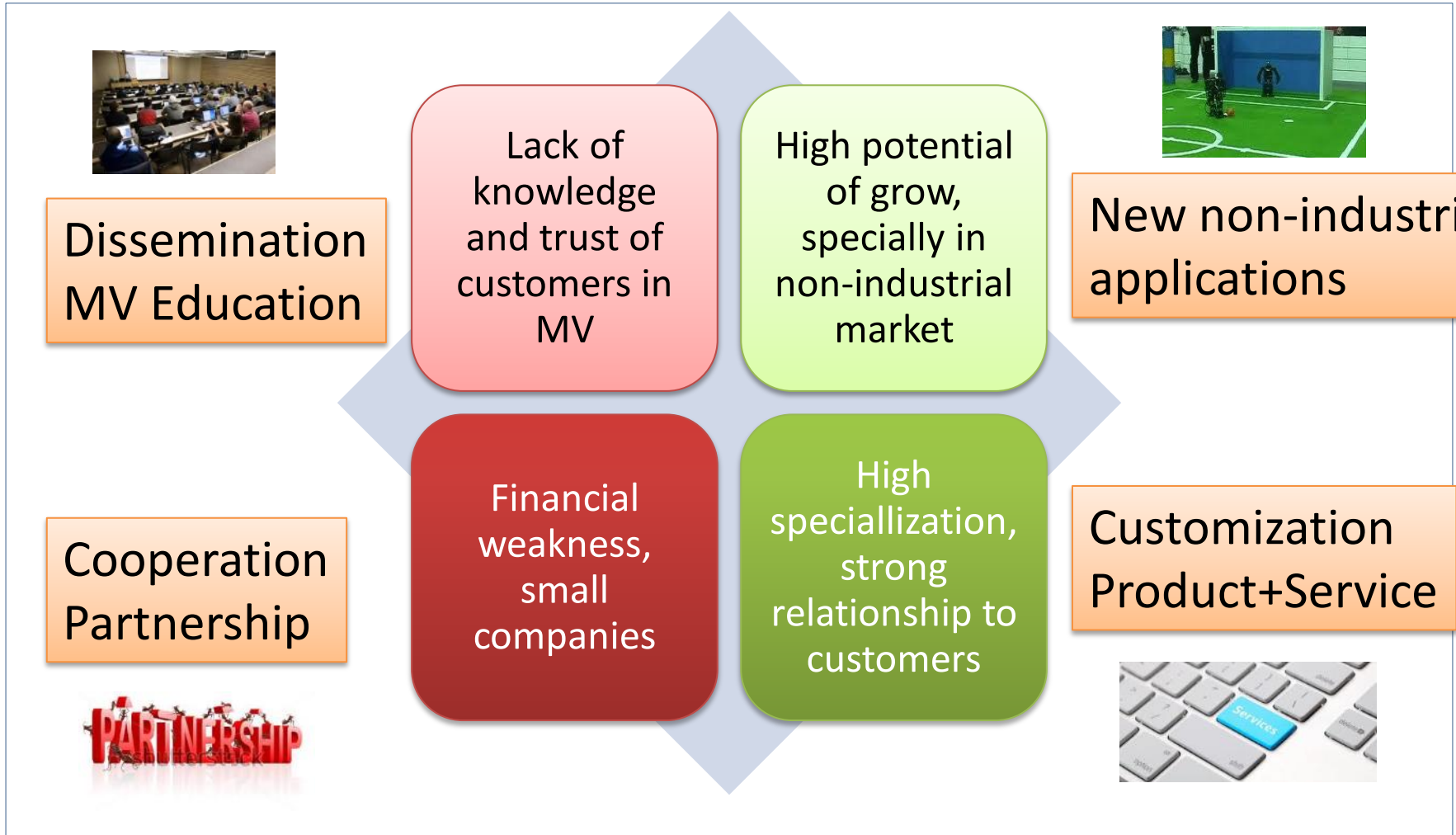
Extended product: Product + Service

Relational + experiential marketing

Highly customized products



How to approach?





Dissemination
MV Education

Lack of
knowledge
and trust of
customers in

High potential
of grow,
specially in
non-industrial



New non-industrial
applications

Is all this only applicable
to Spain?

Cooperation
Partnership

Financial
weakness,
small
companies

specialization,
strong
relationship to
customers

Customization
Product+Service



EMVA Support



Dissemination
MV Education

Lack of
knowledge
and trust of
customers in

High potential
of grow,
specially in
non-industrial



New non-industrial
applications

Is all this only applicable
to Spain?

Cooperation
Partnership

Financial
weak
sm
comp

ation,
g
hip to
ners

Customization
Product+Service



*Muchas
Gracias!*