



**Expert evaluation network
delivering policy analysis on the
performance of Cohesion policy 2007-2013
Year 3 – 2013**

**Task 2: Country Report on Achievements of
Cohesion policy**

Spain

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**A report to the European Commission
Directorate-General Regional Policy**

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List of abbreviations

- AIR Annual Implementation Report
- CDTI Centre for Industrial Technological Development
- CENIT Strategic National Consortiums in Technical Research
- EAPS Economically Active Population Survey
- EC European Commission
- FECYT Spanish Foundation for Science and Technology
- FEI Financial Engineering Instrument
- FIR Financial Implementation Rate
- ICO Spanish Official Credit Institute
- IDEA Spanish Institute for Energy Efficiency
- IEF Spanish Institute for Fiscal Studies, Ministry for Economy and Public Finances
- IMDEA Madrid Institute for Advanced Studies
- INE Spanish Statistical Institute
- JEREMIE Joint European Resources for Micro to Medium Enterprises
- JESSICA Joint European Support for Sustainable Investment in City Areas
- KBE NOP Knowledge Based Economy National Operational Programme
- MICINN Ministry for Research, Science and Innovation
- MITYC Ministry of Industry, Tourism and Commerce
- NOP National Operational Programme
- NSRF National Strategic Reference Framework
- OP Operational Programme
- ROP Regional Operational Programme
- STP Scientific and Technological Park
- TAR Target Achievements Rate (defined as the ratio on targets)
- TC Technology Centre
- TF Technologic Fund
- TF NOP Technologic Fund National Operational Programme
- WWTP Wastewater Treatment Plant

Executive summary

The regional development policy pursued in Spain, in line with the EU Cohesion policy and the Lisbon Strategy, is targeted at reducing regional disparities and coping with the main structural problems and bottlenecks of Spanish regions. Important reprogramming initiatives were undertaken in 2011 and 2012 to tackle the problems caused by the worsening of the crisis in 2012 and the poor prospects for 2013. ERDF co-financing rates in Convergence and transitory regime regions were increased and reassignments of funds were introduced within the Lisbon strategy; these affected the axes most closely linked to entrepreneurial development as well as others fields with a higher expenditure capacity such as knowledge and information society. The reassignments implemented in the OPs did not affect significantly the overall structure of allocations by priorities and policy areas.

In the policy area of business support for innovation and other investments, the increase in ERDF co-financing rates was mainly triggered by the adverse effects of the private investment downturn on the implementation rate. In the rest of the priorities Convergence Regional Operational Programmes (ROPs), the main motivation of increased co-financing was to facilitate the fulfilment of the 2011-2014 stability programme goals (minimizing the needs of national matching funds) and relieve the budget constraints of the Spanish public administrations (exacerbated by the economic recession and the sovereign debt crisis).

Reprogramming measures have been of great help. Financial implementation accelerated considerably during 2012 both in terms of commitments (overall the Financial Implementation Rate (FIR) increased by 13.4% to 85.8%) and implemented funding (overall FIR increased by 11.3% to 56.0%). All policy areas, even those that were more sharply affected by the downturn in business investments, have substantially increased their FIRs. In general, the commitment level of the programmes was quite high in 2012 at 85.5%, rising to 90% in the Convergence objective and to 87% in Competitiveness and employment (including the Phasing-in regions). Once again, the lowest level of commitments was recorded in relation to support for innovation in SMEs in Convergence and multi-objective programmes.

In line with the downturn in the economic situation during 2012, the implementation rates for the indicators most closely associated with the investment activity of enterprises slowed down considerably in comparison to the previous year. The number of jobs created increased by 33%, less than half of the previous year's rate. Relatively modest increases were also registered in the number of direct investment aids to SMEs (+27%) and induced investment (+23%), whereas the number of benefited companies only grew by 11% (one tenth of last year's rate).

Some achievements to be highlighted are 5,839 large research and equipment RTD projects supporting to an important extent the operation of the Spanish public system of science and technology (amounting to 42% of the public calls for RTDI projects of the National RTDI Plan in 2010), as well as many large, medium size and small RTDI business projects (5,446). Direct investment aid and support to encourage creation and modernization of companies resulted in EUR 6,841 million of induced private investment, 41,679 jobs created and 5,546 supported start-ups. Furthermore, an important impulse was given to computerization in public administration, Citizen Services (civil registers and courts of justice) and social services (especially education and health), as well as widespread diffusion and consultancy of ICTs in

small and very small companies. Finally, 586 km of high speed train lines, as well as 509 km of new roads and 186 km of TEN roads were built. Environmental infrastructures in water distribution and water treatment systems served an additional population of 2.2 and 3.4 million respectively.

The breakdown of the overall achievements of ERDF programmes by Cohesion objectives shows that effects are greater in areas with a lower level of development. Gross job creation represented 0.8% over the employed population in Convergence regions (0.1% in Competitiveness), whereas induced investment represented 1.5% of GDP in Convergence (0.6% in Competitiveness).

Unfortunately the role of evaluation in the current programming period has been very limited, practically confined in the field of strategic evaluations of the National Strategic Reference Framework (NSRF) and operational reprogramming. During the entire programming period, virtually no evaluations were carried out in Spain, therefore the assessments of independent experts could not be used to improve the debate on the functioning of the policy measures in ERDF programs.

The national evaluation strategy included the following analyses: the strategic evaluation of the NSRF, multi-programme thematic evaluations (equal opportunities, environment and RTDI), as well as operational evaluations linked to reprogramming. On-going evaluations of output were planned in the event of output indicators' low performance levels. However, none of these evaluations was carried out in practice and the thematic evaluations of Environment and RTDI are considerably delayed.

A new survey on the results and impact of the partially reimbursable grants (45% financed with ERDF) delivered by the Spanish Centre for Technological Industrial Development (CDTI) has been conducted and published in late 2012 (CDTI, 2012a). The results highlight a positive effect on RTDI expenditure, sales, exports and improvements in technological cooperation and international expansion, but a modest effect on the creation of direct employment.

The economic crisis has led to a serious reduction in demand for different types of transports, from motorways (especially toll motorways) to airports and high-speed rail networks. The "rivalry" between them as well as the difficulties in terms of their sustainability increased.

The actions taken in relation to reprogramming and increasing ERDF co-financing rates are an important relief and efforts must be continued to improve progress. Nonetheless, full implementation of the programmes remains a challenge

The measures devoted to boosting technology and innovation projects in the less advanced regions should be led by regional governments and private partners in order to meet future challenges as these are familiar with these regions' entrepreneurial needs due to their linkages with the markets' innovative segments.

There should be a stronger emphasis on projects' results in both the public science and technology system as well as in the regional innovation systems and projects should be in the domain of research groups rather than individual researchers.

It is fundamental to open ERDF interventions to a higher presence of private initiatives from enterprises and non-profit making organisations, allowing a greater ability to adapt to the needs and potentials of the market.

The issue of the verification procedures and expenditure certifications still remains largely unmet. Both the managers of the programmes and the private stakeholders involved in the projects complained about the workload and have expressed concern for the slowness of procedures and the excess of inspections and petitions of documentation.

1. The socio-economic context

Main points from the previous country report:

- Regarding the nature and scale of regional development problems, the entire Spanish economy was losing ground to Europe and GDP per capita in all Spanish regions had fallen as a percentage below the EU-27 average. According to Eurostat data, the GDP per capita in the whole country measured in PPS fell from 105 in 2009 to 98 in 2011 with regard to the EU27=100. Moreover, according to more recent Spanish statistics the fall in GDP per capita accelerated in 2011 for the whole country (down to 92.6% of EU27 in current euros)¹.
- Regarding the effects of economic recession on regional disparities, the imbalances of the Spanish economy (mainly due to low productivity and the bursting of the real estate bubble) did not affect Spanish regions equally. The recession had a profound impact on the Spanish labour market (an average unemployment rate of 21.7%). The more technologically advanced regions (Competitiveness regions, such as the Basque Country, Navarra, Madrid and Catalonia) found it easier to deal with the crisis, while some of the Convergence, Phasing-out and Phasing-in regions were facing serious problems with unemployment and economic stagnation. Beyond these broad features, it is hard to find a general and systematic pattern.
- Finally, regarding the effects of macro-economic policy and fiscal consolidation on regional development, regions were affected differently by the fiscal consolidation policies undertaken by their regional governments, generally depending on regional debt levels and fiscal sustainability. This mainly affected the areas with the largest regional public deficit with regard to their GDP (Murcia, -4.33%, Castile-la-Mancha, -7.3%, Valencia, -3.68% and Catalonia, -3.72%).

Developments since the 2012 report

The main changes which have occurred since the 2012 report was prepared are commented below, first considering the overall performance of the Spanish economy and then examining the evolution at a regional level.

The minor signs of recovery at the end of 2010 and 2011 did not last and the economy entered into a W-shaped recession, shrinking by more than 1.6% in 2012². Fiscal consolidation measures were reinforced with new cuts in public spending and public deficit (as a share of GDP) was reduced from 9% in 2011 to 7.02% in 2012³. As for 2013, the European Commission

¹ GDP per head in Convergence regions (current euros, EU27=100) fell down to 64, 70 and 74 (in Extremadura, Andalusia and Castile - La Mancha, respectively) and dropped to 84 in Galicia, while it shrank to 76 in regions with transitory regimes (Murcia, Phasing-out) and to 79 and 82 respectively in the Canary Islands and Valencia (Phasing-in).

² INE, Press release 795, 27 August 2013.

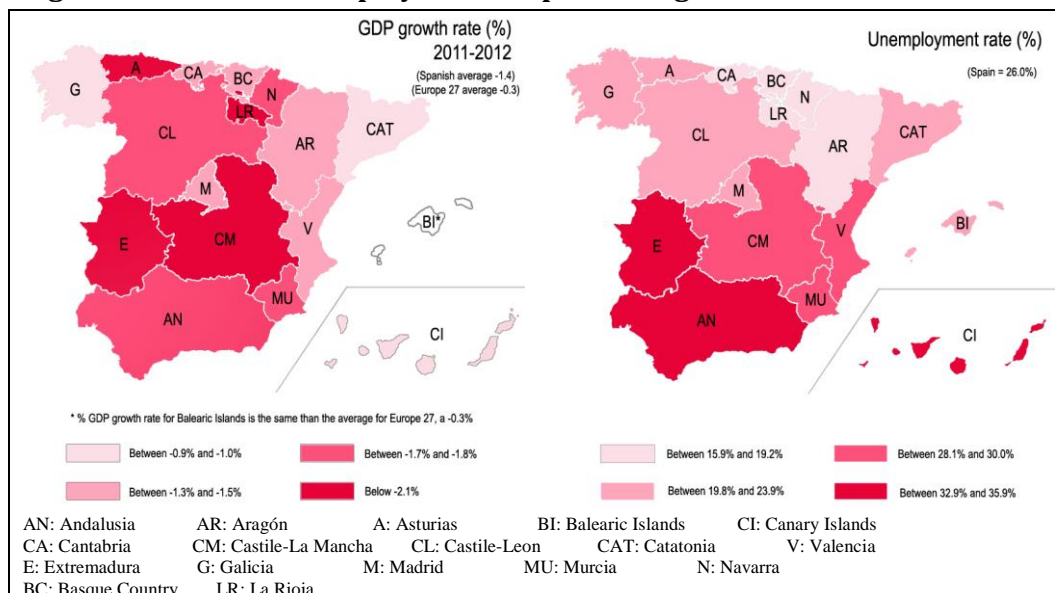
³ These are reviewed data from the INE. However, the public sector balance rises to -10,6 % GDP when the EU loan for rebalancing the Spanish financial system is taken into account. The loan was intended to support capital losses in some of the new banks (Bankia, the largest one) created through mergers of the most problematic old Spanish saving banks. Details on public debt can be found in the report by the EC, Macroeconomic Imbalances – Spain 2013.

(EC)⁴ expects the Spanish GDP to fall by 1.5%, although the forecast for 2014 (0.8% GDP growth) and for the medium-term points towards a slight recovery for the Spanish economy⁵. Regarding the Spanish government deficit, the EC has accepted a target of 7% GDP for the end of 2014, only implying a certain relief in the programme of public spending cuts in order not to jeopardise the slight recovery prospects for the Spanish economy⁶.

The evolution of the Spanish regions' GDP in 2012 is characterised by widespread recession. Spanish Regional Accounts reported the regional distribution of the real growth rate of the Spanish economy estimated at -1.4% for 2012⁷. In line with the deep and widespread recession of 2012, employment problems were exacerbated all across Spanish regions (except in the Balearic and Canary Islands) and the unemployment rate rose to 26.02% in the whole country⁸.

The most significant feature of the economic development in the Spanish regions in 2012 is the deep and widespread recession of GDP and the rise in unemployment rates. However, the spatial distribution of the regional rates of GDP growth and unemployment for 2012 are shown in Figure 1 below.

Figure 1 - GDP and Unemployment in Spanish Regions



Source: Own elaboration based on Spanish Statistical Institute (INE) data.

⁴ EC, European Economy Forecast, Spring 2013, European Economy 2/2013.

⁵ The Spanish government has anticipated that the country will be growing at 0.9% by 2015 and 1.3% by 2016 (Gobierno de España, Actualización del Programa de Estabilidad 2013, Cuadro 2.3.1 Perspectivas macroeconómicas). However, several international organisations such as the International Monetary Fund have predicted a growth rate of 0.3% and 0.6% of for the same years, respectively.

⁶ Although unemployment has continued to rise, it is worth mentioning that the latest data released by the INE seems to show a change in employment trends, with July being the first month since the outbreak of the economic crisis in which the unemployment rate dropped (after adjusting for seasonal effects). European Commission forecasts expect the Spanish unemployment rate to be 27% of the workforce by the end of the current year, while for 2014 employment is expected to start a weak recovery. The sovereign debt risks still cannot be excluded, and credit is still not flowing to businesses and households, although it seems that the downturn will hit its lowest point in this year, 2013.

⁷ INE, Quarterly National Accounting of Spain, 28th of February 2013 and INE, Gross Domestic Product by Region. Year 2012 (Spanish Regional Accounts. Base 2008), 21 March 2013.

⁸ INE, Economically Active Population Survey (EAPS), 4th Quarter 2012, 24 January 2013.

All Spanish regions (except the Balearic Islands) experienced a GDP contraction in real terms well below the -0.3% EU average. Regional rates of GDP contraction range from -0.9/-1.0 in a few regions (Galicia, Catalonia and the Canary Islands) to below -2.1% (Andalusia, Murcia, Navarra and Castile-Leon) with an outstanding GDP contraction of -3.0% in Castile-La Mancha, significantly influenced by the decrease in public administration services associated with dramatic cuts in public spending.

Unemployment rates were high (in the range of 15.9%, 19.2%), but well below the Spanish average, in the best performing regions (the Basque Country, Navarra, La Rioja and Cantabria), whereas a group of regions (Valencia, Murcia and Castile-La Mancha) placed above the Spanish average (in the range of 28.1%, 30.0%) and finally the worst-performing regions (the Canary Islands, Extremadura and Andalusia) reached unemployment rates well above 30% (in the range of 32.9%, 35.9%).

Regarding the main changes in regional disparities, the ranking of Spanish regions by GDP per capita has not changed significantly over the last few years. On average, the GDP per head in current euros shrank by around 1.6% between 2010 and 2012, although the per capita GDP of the poorest region (Extremadura) remained approximately equal to half of the richest (Basque Country). In a similar vein, the unemployment rate in Spain increased considerably (by 40%) between 2009 and 2012, but the relative distance between the worst and the best performing regions (Andalusia and the Basque Country, respectively) also remained at around 1/2.⁹

There is no significant additional evidence on how the crisis is affecting regions differentially. The broad trends shown in last years' reports seem to continue. In general, the more technologically advanced regions (Competitiveness regions, such as the Basque Country, Navarra, Madrid and Catalonia) have not been affected by the crisis as seriously as some Convergence, Phasing-out and Phasing-in Southern and Mediterranean regions, which are facing dramatic problems in terms of unemployment and economic stagnation. Overall, regional disparities have remained constant, but unemployment and economic stagnation are widespread and dramatic.

The sovereign debt crisis, the credit crunch and credit spreads, as well as public expenditure cuts and tax increases have given rise to depressive impact in the short run. However, currently it seems that the contraction is touching its bottom at the end of summer 2013. The austerity measures and structural reforms undertaken by the central government are having a bigger impact on those regions whose regional governments have the highest debt and public deficit. These regions have had to make the most severe adjustments, which has naturally affected their situation in the short term. These adjustments have been especially severe in Castile-La Mancha (which reduced its public deficit from 9% GDP in 2011 to 1.5% in 2012), while some others are

⁹ The evidence of the impact of the crisis on regional differences is unclear. On the one hand, the coefficient of variation in the GDP per capita of the Spanish regions has shown a certain upward trend, from 18.6% in 2008 to 19.8% in 2012 (with the estimated data from the National Statistics Institute). However, the most outstanding feature is the general downturn in all of the regions and in the average from the country (from 23.8 thousand euros to 22.7 between both dates, minus 4.6%). This said, the worst effect of the crisis has been the increase in job losses, with the unemployment rate soaring from 8.6% in 2007 to 26% in 2012 (in the last quarter), rising to more than 30% in Andalusia, the Canary Islands and Extremadura. However, the overall increase in all of the regions meant that the coefficient of variation in the unemployment rates fell from 34.6% to 31.3% during this period.

still facing fiscal adjustment problems (1.96% for Catalonia, 2.02% for Andalusia, and 3.02% for the Region of Murcia).

Fiscal consolidation measures have reduced the amount of funds available for public investment and the regional development policy (it has decreased from EUR 13.5 million to EUR 9.3 million¹⁰, a reduction of about 31.3%). However, on the one hand, the needs for co-financing from ERDF programmes and Cohesion Fund served as a containing wall, especially in areas such as R&D, and on the other, the increase in financing rates in the reprogramming for 2011 facilitated the absorption of the funds, while their retroactive application led to an important source of liquidity and to relieve the pressure on the funds that the public budget has to pay in advance in order to make the eligible expenditure.

In the Spanish case, most of the Convergence and transitory regime regions are experiencing the severest problems of recession and high unemployment. The crisis and the pressures to adjust central and regional public deficits and indebtedness levels have weakened interregional solidarity and concern towards less favoured regions. Furthermore, the distribution of public deficit caps to the regional governments has given rise to political tensions, with increasing confrontation between the regions.

2. The regional development policy pursued, the EU contribution to this and policy achievements over the period

The regional development policy pursued

Main points from the previous country report:

- The regional development policy in Spain was targeted at reducing regional disparities by increasing investment in lagging regions. Most of the priorities and measures were aligned with the Lisbon strategy both in Convergence and Competitiveness regions and were designed to cope with the main development bottlenecks and regional structural problems. Financial allocations were as planned in the programming documents.
- The Territorial Cooperation Objective is extremely important in mitigating problems in extremely peripheral border regions, but the funding given to this objective (mainly in Spain-Portugal and Spain-France border cooperation programmes) was reduced to merely 1.8% of total EU support. The large R&D project, the building of a nanotechnology centre (Iberian Nanotechnology Lab) in the Spain-Portugal (North) programme was a remarkable achievement.
- An important reprogramming was undertaken in 2011 to address the impact of the worst economic crisis in the recent history of Spain. ERDF co-financing rates were increased to their maximum¹¹ in Convergence, Phasing-in and Phasing-out regions, and some reprogramming was agreed upon with the intent of improving implementation by

¹⁰ The evidence is shown in the General Government Budget (PGE) for the years 2011 and 2012, chapters 6 and 7 of general expenditure, related to Capital Investment and Capital Transfers.

¹¹ From the current 70% to a maximum of 80% (85% in the Canary Islands as an outermost region).

reallocating funding from business development axes, which were significantly affected by the drop in entrepreneurial investment, to other measures¹².

Developments since the 2012 report

The new data (from July 2013) show the extent and nature of the changes that have occurred in the allocation of EU funding by priorities and policy areas. The increase in funding rates caused a decrease (around 9%) in ERDF programme expenditure, although it did not have an effect on either total allocations of ERDF support or on its distribution by priorities or by policy areas.

The reprogramming undertaken in 2011 was of great help but not entirely sufficient in tackling the problems derived from the worsening of the crisis in 2012 and the poor prospects for 2013. Almost all of the programmes were affected by reprogramming requests¹³. These requests were limited to changes within the Lisbon strategy, and affected the axes most closely linked to entrepreneurial development as well as others with a higher expenditure capacity in the fields of the knowledge and information society and environment. However, the reassignments carried out in the separate ERDF programmes only had slight effects, without significantly affecting the overall structure of allocations by priorities and policy areas.

The changes in funding allocations between 2011-2012 are shown below in Table 1 to take into account the joint effects of reprogramming in the two last years, whereas Annex Table A shows the total allocations of ERDF and Cohesion Fund support in both years.

¹² Castile-León is a very different case as the fund reallocations were channelled from axes 4, transport, multimodal and renewable energies to SME aids for R&D purposes.

¹³ Knowledge economy, Cohesion Fund, Aragón, Balearic Islands, Valencia, Canary Islands, Cantabria, Castile-La Mancha, Castile-León, Catalonia, Extremadura, Galicia, La Rioja, Madrid and the Basque Country.

Table 1 - Changes in financial allocation by main policy area between in 2012

ERDF and Cohesion Fund	Convergence objective		Competitiveness and employment objective		Multi-objective		Total	
	EUR million	%	EUR million	%	EUR million	%	EUR million	%
1. Enterprise environment	-48.7	-1.6	22.1	1.0	-7.4	-0.2	-34.0	-0.4
1.1 RTDI and linked activities	-1.1	-0.2	-27.9	-3.4	0.0	0.0	-28.9	-0.9
1.2 Support for innovation in SMEs	-41.8	-8.2	-16.6	-3.0	-7.4	-0.6	-65.8	-2.9
1.3 Other investment in firms	-7.4	-0.4	5.7	1.2		0.0	-1.8	-0.1
1.4 ICT and related services	1.6	0.5	60.9	19.9	0.0	0.0	62.5	6.7
3. Transport	42.2	0.6	18.3	2.2		0.0	60.6	0.8
3.1 Road	55.2	2.6	-2.5	-35.2		0.0	52.7	2.5
3.2 Rail	0.0	0.0	26.4	6.5		0.0	26.4	0.7
3.3 Other	-13.0	-1.1	-5.5	-1.4		0.0	-18.6	-1.2
4. Environment and energy	-37.2	-0.7	-12.3	-1.3		0.0	-49.5	-0.8
4.1 Energy infrastructure	-14.3	-5.0	4.3	3.1		0.0	-10.0	-2.3
4.2 Environmental infrastructure	-23.0	-0.4	-16.6	-2.0		0.0	-39.5	-0.7
5. Territorial development	43.9	1.9	-18.9	-2.1	7.4	12.1	32.5	1.0
5.1 Tourism and culture	-52.8	-9.6	-20.4	-8.8		0.0	-73.2	-9.4
5.2 Planning and rehabilitation	8.6	1.0	1.5	0.5		0.0	10.1	0.9
5.3 Social infrastructure	88.1	9.4	0.0	0.0	7.4	12.1	95.6	8.4
5.4 Other		0.0	0.0	0.0		0.0	0.0	0.0
6. Technical assistance	-0.3	-0.4	-13.8	-28.1	0.0	0.0	-14.1	-6.1
Total Objective	0.0	0.0	-4.5	-0.1	0.0	0.0	-4.5	0.0
Sum of Positive Changes	86.1		40.4		7.4		93.0	
In percentage of total allocation	0.5		0.8		0.2		0.3	

Source: DG REGIO, Date 24th July 2013.

Shifts of ERDF support among policy areas were extremely limited and the sum of changes¹⁴ in the different objectives is represented by almost insignificant amounts in the range of 0.2% and 0.8% of total ERDF support. As a rule, the changes went from areas linked to entrepreneurial development (-0.4%), as well as environmental and energy infrastructures (-0.8%), to other policy areas with a higher expenditure capacity in the fields of ICT and related services (+0.8%), territorial development -especially social infrastructure- (+1.0%) and transport infrastructures (+0.8%). It is worth mentioning that in Competitiveness and Phasing in regions, allocations were mainly redistributed to ICTs (+20%) and rail investments (6.5%, very important in Phasing-in regions) from enterprise environment (-0.4%), tourism and culture (-8.8%), as well as environmental infrastructures (-2.0%).

Regarding the manner in which the increase in the EU co-financing rate in 2011 and 2012 affected planned expenditure by policy areas, the results in EUR million are shown in Annex Table B, while percentage changes are shown in Table 2 below.

On the whole, total planned expenditure for the ERDF and Cohesion Fund was significantly reduced by 9.2%. The reduction in the total expenditure was higher (around 10%) in the Convergence objective (including Phasing-out) and in the multi-objective (because the Technological Fund National Operational Programme (TF NOP) is concentrated in the

¹⁴ Only positive ones to avoid cancelation because the total amount of ERDF support remains unchanged.

Convergence and transitory regime regions)¹⁵. Alternatively, planned expenditure in the Competitiveness and employment objective (including Phasing-in regions) experienced a much lower reduction of only 6.7%.

Table 2 – Change in planned expenditure on ERDF and Cohesion Fund by main policy area 2010-2012 (EUR million and %)

Policy Area	Convergence objective		Competitiveness and employment objective		Multi-objective		Total	
	EUR	%	EUR	%	EUR	%	EUR	%
1. Enterprise Support and RTDI	-710.0	-15.6	-39.1	-1.1	-564.1	-10.7	-1,313.2	-9.8
1.1. RTDI and linked activities	-14.9	-2.7	-61.8	-4.2	58.0	2.2	-18.7	-0.4
1.2. Innovation support for SMEs	-103.5	-15.2	-34.9	-4.2	-565.5	-26.1	-704.0	-19.1
1.3. Other investment in firms	-630.9	-21.3	-71.9	-9.7	0.0		-702.8	-19.0
1.4. ICT and related services	39.3	11.2	129.6	27.1	-56.7	-12.5	112.3	8.7
3. Transport	-630.5	-6.8	-186.5	-12.5	0.0		-817.0	-7.6
3.1. Rail	4.4	0.1	-90.5	-13.9	0.0		-86.1	-1.7
3.2. Road	-480.1	-14.9	-4.1	-31.7	0.0		-484.2	-15.0
3.3. Other transport	-154.9	-9.7	-91.9	-11.1	0.0		-246.7	-10.2
4. Environment and energy	-1,089.5	-13.8	-230.4	-15.2	0.0		-1,319.9	-14.0
4.1. Energy infrastructure	-93.7	-22.2	-49.0	-20.3	0.0		-142.7	-21.5
4.2. Environment and risk prevention	-995.8	-13.3	-181.4	-14.2	0.0		-1,177.2	-13.4
5. Territorial development	-21.7	-0.7	-78.5	-5.0	7.8	8.8	-92.5	-2.0
5.1. Tourism and culture	-171.7	-21.9	-39.2	-9.5	0.0		-210.9	-17.6
5.2. Planning and rehabilitation	-141.3	-11.4	-22.4	-4.6	0.0		-163.6	-9.5
5.3. Social Infrastructure	291.3	29.3	-17.0	-8.4	7.8	8.8	282.1	22.0
5.4. Other	0.0		0.0		0.0		0.0	
6. Technical assistance	-8.5	-8.2	-17.2	-24.2	0.0	0.0	-25.7	-8.1
Total Objective	-2,460.2	-9.9	-551.7	-6.7	-556.4	-10.1	-3,568.2	-9.2

Source: Fondos 2007, DG Fondos Comunitarios, Ministerio de Hacienda y Administraciones Públicas. Dates: 8th July 2013 vs. 29th June 2011.

The reductions in the planned expenditure shown in Table 2 are a result of the effect of the increase in the ERDF funding rate and the changes made in the assigning of funds amongst policy areas. Reductions of over 10-12% can generally be seen in policy areas from which funding has been reassigned to other areas (Innovation support for SMEs and Other Investments in Firms, Energy Infrastructures and Environment and Tourism and Culture). Policy areas, which benefitted from the reassignments generally, saw increases or smaller reductions in planned expenditure (ICTs and Related Services, RTDI and linked Activities, Social Infrastructure and to a lesser extent, Rail investments). This especially applied to Convergence ROPs and Multi-objective Programmes (mainly the TF NOP).

¹⁵ The reduction in the planned induced expenditure by an increase in the co-financing rate from 70% to 80% would be 12.5%. However, the rise in rates was concentrated in Priority 2 (Business development and Innovation) of the NOP TF (Multiobjective) and the Convergence ROPs (including transitory regimes) and in axes 3, 4, 5 and 6 (Environment and Risk Prevention, Transport and Energy, Local and Urban Development and Social Infrastructures) of the Convergence ROPs. For this reason, the reductions do not affect all the axes of the Convergence programmes (Phasing-out and Phasing-in) and multi-objective (in particular, axis 1 of these programmes was excluded, Knowledge Based Economy), whereby the mean reduction in the programmed expenditure is around 10%.

The main reasons behind ERDF reprogramming are related to both changes in economic circumstances and constraints on public finance. The main rationale for increasing co-financing rates was to reinforce the fund-absorbing capacity of ERDF programmes. In the policy area of business support for innovation and other investments, the increase in ERDF co-financing rates was mainly triggered by the adverse effects of the private investment downturn on the implementation rate of the measures in this area. However, in the other priorities (3, 4, 5 and 6 axes of the Convergence ROP), the main motivation was to facilitate the fulfilment of the 2011-2014 stability programme goals (minimising the needs of national matching funds) and to relieve the budget constraints of the Spanish public administrations (exacerbated by the economic recession and the sovereign debt crisis).

The financial allocations from the ERDF programmes acted as a 'containing wall' against the fall in public investment, not only in government sectors but also in areas such as R&D in regional bodies, universities and public research centres, the expenses of which are eligible for the ERDF. In addition, the increase in the ERDF financing rate in the 2011 reprogramming was applied retroactively by the EC and the corresponding returns resulted in a significant injection of liquidity consequently relieving the pressure on public budgets to co-finance the ERDF programmes.

SMEs were affected by financial restrictions and a decrease in available credit. The most interesting solution for this problem was the formation of financial instruments, the most remarkable examples of which are the Joint European Resources for Micro to medium Enterprises (JEREMIE) funds in the ROPs of Catalonia (for a limited but still significant amount) and Andalusia (which has significantly more financial muscle) are the most remarkable examples. Other JEREMIE funds have recently been set up in the ROPs of Extremadura and the Canary Islands (where another was created this year specifically aimed at financing SMEs without requiring them to be innovative). Currently, these instruments are being strengthened in the multi-objective programmes by the Spanish Official credit institute (ICO) and the CDTI as a way to accelerate implementation and dodge the n+2 rule requirements. Nevertheless, on the whole the total of funds managed by financial instruments in Spain is still overly limited to significantly influence the Spanish economy with an anti-cyclical effect on the economic situation.

Policy implementation

Main points from the previous country report:

- Both financial implementation rates and target achievement levels increased significantly from 2009 onwards with a substantial increase in 2011. However, Convergence programmes reached lower implementation rates than Competitiveness and Phasing-in programmes. Moreover, Convergence regions' implementation rates were at 24.7% (FIR) in the multi objective programmes compared to 43.9% in their own regional programmes. This was largely due to the fact that the business RTDI actions, which were designed in the TF NOP and implemented by the CDTI, were not suitable to the features of Convergence regions.

- An increasing negative impact of the economic crisis on the progress of programmes was reported by the AIR's in 2012 and 2013¹⁶.
- The reprogramming actions of 2011 undertook two initiatives to accelerate implementation, the most important of which was an increase of co-financing rates to the maximum level in Convergence regions. The second initiative was the redesigning of CDTI measures, through agreements with regional governments, to better fit the actual RTDI needs of companies in Convergence regions. Consequently, a new set of FEDER-INTERCONNECTA measures in the TF NOP was launched in autumn 2011.

Developments since the 2012 report

The current situation obtained from the most recent available data is described in detail below:

Until the present time, the funding allocations of programmes have mostly been in line with initial plans, with the exception of the relatively small readjustments of aid amongst the priorities reported in the previous section. However, FIR varies according to programmes and measures. To a certain extent, the variation may be due to the different rhythms in the maturity of the different measures. For this reason, the infrastructure measures focusing on transportation and the environment usually involve a higher number of commitments with regard to implemented financing than others.

Table 3 provides recent data (July 2013) on the shares of ERDF support implemented by policy areas and objectives in the years 2011 and 2012, while Annex Table C shows the values of ERDF funding implemented by policy areas.

¹⁶ In many Convergence ROPs (Castile-La Mancha, Extremadura and Galicia), 2011 AIRs included a number of warnings regarding the rising failure rates of selected projects in certain measures (especially in those addressed to business sectors).

Table 3 - ERDF Funding implemented by policy areas and objectives 2011 – 2012 (FIRs in percentage of funding allocations)

Policy area	Convergence objective		Competitiveness and employment objective		Multi-objective		Total	
	FIR 11	FIR 12	FIR 11	FIR 12	FIR 11	FIR 12	FIR 11	FIR 12
1. Enterprise environment	28.4	34.0	40.5	50.4	29.6	43.1	31.8	41.7
1.1 RTDI and linked activities	20.4	22.1	35.3	44.5	28.4	43.4	29.0	40.9
1.2 Support for innovation in SMEs	25.9	33.6	35.8	44.9	28.2	38.2	29.5	38.9
1.3 Other investment in firms	29.7	34.6	44.7	54.7	-	-	32.7	38.7
1.4 ICT and related services	36.4	47.4	56.5	65.3	42.4	59.1	45.0	57.7
3. Transport	68.2	81.5	76.3	80.2	-	-	69.1	81.4
3.1 Road	56.8	68.9	85.2	81.7	-	-	59.7	70.3
3.2 Rail	93.7	107.9	0.0	109.8	-	-	93.4	107.9
3.3 Other	56.8	71.2	68.7	78.2	-	-	59.9	73.0
4. Environment and energy	34.2	45.9	45.5	55.8	-	-	35.9	47.4
4.1 Energy infrastructure	29.8	34.2	20.7	20.5	-	-	26.8	29.3
4.2 Environmental infrastructure	34.5	46.5	49.8	62.2	-	-	36.5	48.6
5. Territorial development	38.8	48.1	46.3	62.3	46.7	57.0	41.0	52.0
5.1 Tourism and culture	33.7	45.8	43.3	58.5	-	-	36.6	49.6
5.2 Planning and rehabilitation	25.3	38.0	39.7	50.3	-	-	28.9	41.0
5.3 Social infrastructure	54.2	57.8	54.9	62.1	46.7	57.0	53.9	58.2
5.4 Other	-	-	51.6	79.8	-	-	51.6	79.8
6. Technical assistance	28.9	42.6	17.4	32.9	26.9	38.3	25.5	38.9
Total Objective	46.8	57.9	48.4	58.6	29.8	43.3	44.7	56.0

Source: FONDOS 2007, DG Fondos Comunitario, Ministerio de Hacienda y Administraciones Públicas. Date: 8th July 2013.

Control and certification procedures are time-consuming, which means that the financial implementation rates for the ERDF and Cohesion Fund in terms of certified funding, tend to be lower than real implementation rates (due to the time lag for certifying expenditure). Consequently, these must also be presented in terms of committed expenditure, in order to obtain clearer indicators of the programmes' financial absorption capabilities.

Commitments (Table 4) provide additional information on financial compliance with programmes. The data in Table 4 are not strictly comparable with those in Table 3, due to the fact that some programmes (Cohesion Fund and ROPs of Murcia, Castile-La Mancha and La Rioja) have yet to present information on their commitments from 2012. In order to enable comparisons, the data in the latter table do not include these programmes. Implementation rates are displayed in Table 4, while Annex Table C provides values in EUR million.

Table 4 - Commitments in relation to allocation by main policy area (%)

Policy area	Convergence objective		Competitiveness and employment objective		Multi-objective		Total	
	2011	2012	2011	2012	2011	2012	2011	2012
1. Enterprise environment	43.2	52.8	67.1	81.3	52.0	72.4	52.5	68.2
1.1 RTDI and linked activities	40.2	42.8	60.5	73.1	55.6	76.1	55.2	71.9
1.2 Support for innovation in SMEs	41.0	56.4	51.8	65.9	46.8	67.6	46.9	65.3
1.3 Other investment in firms	37.5	48.4	55.7	84.3			40.0	53.5
1.4 ICT and related services	82.9	85.4	119.5	116.2	47.9	66.9	82.4	90.5
3. Transport	129.9	139.9	81.6	98.3			122.3	133.3
3.1 Road	151.4	155.9	0.0	1.189.6			150.8	158.3
3.2 Rail	83.5	108.9	82.3	79.8			83.2	101.6
3.3 Other	123.6	130.0	82.8	97.7			109.2	118.6
4. Environment and energy	59.6	65.8	87.5	85.3			65.2	69.7
4.1 Energy infrastructure	36.1	36.0	70.5	17.5			47.6	29.2
4.2 Environmental infrastructure	61.8	68.5	91.0	101.0			67.2	74.3
5. Territorial development	68.1	87.4	70.0	92.9	51.6	65.6	68.3	88.3
5.1 Tourism and culture	81.1	111.1	64.3	81.3			76.4	102.8
5.2 Planning and rehabilitation	64.7	97.7	77.4	84.0			67.8	94.4
5.3 Social infrastructure	63.4	66.7	70.4	103.6	51.6	65.6	63.6	71.0
5.4 Other			67.1	104.0			67.1	104.0
6. Technical assistance	78.7	84.9	35.3	61.6	41.3	55.1	49.0	63.9
Total Objective	79.1	90.1	73.4	86.9	51.7	71.8	72.4	85.8

Source: DG Regio. Note: ROPs of Castile-La Mancha, Castile-León, La Rioja and Murcia, and the NOP of ERDF Cohesion Fund are not included in Commitments 2012. Date: December 2013.

In general the commitment level of the programmes was quite high in 2012 at 85.5%, rising to 90% in the Convergence objective and 87% in Competitiveness (including the Phasing-in regions). Once again, the lowest levels of committed financing were in support for innovation in SMEs in Convergence and multi-objective programmes (also due to the low FIR in the Convergence regions), to a lesser extent in the RTDI area in all of the objectives, but more sharply in Convergence, and finally in the areas of energy and environmental infrastructures, as well as in other minor areas in planning and rehabilitation.

Financial implementation accelerated considerably during 2012 both in terms of commitments (overall FIR increased by 13.4% to 85.8%) and implemented funding (overall FIR increased by 11.3% to 56.0%). All policy areas, even those that were more sharply affected by the downturn in business investments, have substantially increased their FIRs.

With respect to the development of the implementation rate after the end of 2012, the certification data in FONDOS 2007 are still limited (the majority of the declarations of implemented funding are normally entered into the system in the last part of the year and will be available in early 2014). However, the expert opinion of the general sub-directorate of the ERDF is that in light of the circumstances, the execution for this year can be considered as acceptable. The aim is to absorb the funding, and, for 2013, no losses of resources in the ROPs are expected. The situation is slightly more complex in the multi-objective programmes, and we will comment on the measures implemented to deal with this situation later in this report. The forecast for the POEC is to use up the financing, and save albeit with little room for movement

the de-commitments due to the n+2 rule. In the case of FT, the implementation process is expected to be strengthened with the reception of new funding from the ICO.

As previously mentioned, the main reasons hindering programmes in implementation rates lie in the adverse effects of the economic downturn on business investments, which is reducing the demand for funds in the policy areas of support for innovation and other investments in firms, as well as difficulties in co-financing expenditure due to sharp public spending cuts to put public deficit under control (both in central and regional governments). These reasons are the same as indicated in the 2012 report, but they have been exacerbated in 2012 and 2013. Moreover, some problems remain in multi-objective NOPs, as is the case with the delay in redesigning the CDTI measures for correctly dealing with the real innovation and R&D needs of firms in Convergence regions. The new set of FEDER-INTERCONECTA measures (described in the subsection on achievements) in the TF NOP was not launched until the autumn of 2011.

As previously mentioned, the most important initiative undertaken to accelerate implementation is ERDF reprogramming by means of a wide increase in funding rates for Convergence and transitory regimen regions, as well as slight readjustments in funding allocations among different measures within the Lisbon strategy goals.

The adopted measures seem to have been effective, as indicated by the positive change in ERDF implementation rates in 2012, despite an extremely unfavourable socioeconomic climate. The increases of ERDF co-financing rates facilitated the absorption of funding and also significantly mitigated demand related problems in the entrepreneurial sector as well as supply problems connected to national public sector matching funds.

Due to the aggravated situation in 2012 and the poor economic forecast for the coming years, reprogramming actions have been taken by the monitoring committees in most of the programmes (both in the Convergence and Competitiveness objectives). This said, as shown in the previous section of this report, the effect of readjustments in funding allocations has been limited.

In order to have complete control over the certification and justification process, a general provision was issued at the beginning of the current programming period in Spain, stating that ERDF matching funds must solely be the expenditure of a public body or authority. However, the monitoring committee of the TF NOP later agreed on including private expenditure as eligible, a decision which changed the philosophy behind the projects, but the effect of which will be limited at present and mostly serves as preparation for the next period.

The monitoring committee for the NOP of the Knowledge Based Economy (KBE NOP) requested the integration of both programmes in order to facilitate implementation, but the technical details of the agreement have yet to be discussed.

Another important series of measures to accelerate implementation, focus on Financial Instruments, demand for which has risen as a way of solving the problems of accessing liquidity in the Spanish market. Apart from the new funds created in the ROPs¹⁷ in the case of TF NOP it is expected that implementation will be accelerated with the creation of new funds by the ICO and

¹⁷ Apart from the JEREMIE funds already mentioned above that were created by the multi-objective programmes in the ROPs of Extremadura and the Canary Islands, in the energy area the Institute of Energy Efficiency and Savings (IDEA) has constituted a JESSICA fund to manage these measures within the regional programmes.

the CDTI. The planned creation of a new fund of EUR 330 million by the ICO would represent an important stimulus to the levels of implementation. Naturally, the financing paid out to the funds would have to be paid out by the 31st of December 2015 in order to be reimbursable, although this amount of financing is not excessively high for the ICO in comparison to the amounts it is used to handling.

In light of the levels of commitment achieved and the response to the measures that have been adopted, the objective for the full absorption of the funds in Spain may be feasible. There are still areas with greater difficulties, but the SDG of the ERDF does not anticipate major problems in the regional programmes, and trusts that the multi-objective programmes (TF and KNBE NOPs) can be solved with the planned measures. It is not possible to know with any real certainty if the funding in financial instruments will reach the final beneficiaries by the end of 2015. Nevertheless, the signs shown by the results presented in Andalusia, the human and management resources of the Spanish financial system and the capacity and volume of business that can be undertaken by a credit institution such as the ICO are all reasons that support the forecast for high levels of implementation by the end of 2015.

Achievements of the programmes so far

In this section, an overview of the situation will be presented and a description of the programmes' indicators and achievements will be given. A discussion of the situation by each of the policy areas will follow.

Main points from the previous country report:

- In 2010, the Spanish information system, FONDOS 2007, delivered indicators for a wide range of measures in ERDF programmes, and the overall indicators showed that significant progress had been made. The increase was especially noticeable in the area of RTDI and business support, where a majority of the indicators doubled and some tripled. In 2011, the indicators continued to show a generally increasing trend. The pace was somewhat attenuated with increases of around 100% in the numbers of benefited Companies and 70% in jobs created, as well as 50% in the number of direct investment aids for SMEs and induced investment.
- Nevertheless, it was doubtful that this fast progress in implementation could continue over the following years, due to the impact of the economic crisis and unfavourable prospects for recession in the Spanish economy. Moreover, 2011 Annual Implementation Reports (AIRs) (Castile-La Mancha, Extremadura and Galicia) expressed a series of concerns regarding the increasing failure rates of selected projects in certain measures (especially in those addressed to business sectors) and reported that there were calls which had not been issued due to the uncertainty in demand for applications.
- Targets were readjusted in 2011, in line with the approved reprogramming and the increase of funding rates. The most important changes occurred in the objectives of beneficiary companies, which were downgraded by 19%, and to a lesser extent in the number of RTD projects (-9.4%) and job creation (-2.3%).

Developments since the 2012 report

Due to the downturn of the economic situation in 2012, the implementation rates for the indicators most closely associated with the investment activity of enterprises, slowed down

considerably in relation to the previous year. The number of jobs created increased by 33%, less than half of the previous year's rate, the number of direct investment aids to SMEs merely grew by 27% and induced investment by 23%, whereas the number of benefited Companies only grew by 11% (tenth of last year's rate)¹⁸.

Despite the difficult economic situation in Spain, the progress in ERDF programmes has reached a point where it is possible to provide a reasonable picture of achievements so far. Table 5 at the end of this section shows the main physical indicators and achievements.

In most cases, achievements are in line with the set policy objectives, but as previously said, targets in some policy areas have been reduced and indicators readjusted to take into account the failures in projects linked to the drop in business investment, as well as the constraints in matching funds due to the control of public deficits by the Ministry of Finance¹⁹.

The operation of the Spanish public system of science and technology was, to an important extent supported by the ERDF through research projects in universities, public bodies and research centres (public or non-profit making). Most of these projects (11,600 RTD and 982 complementary projects for scientific and technological equipment) were awarded through competitive calls with external evaluators and accounted for EUR 979 million, representing 3.6% of the total RTD expenditure of the Spanish public sector and 42% of the public calls for RTDI projects of the National RTDI Plan in 2010 (Informe SISE, 2010²⁰). Unfortunately, the thematic evaluation on RTDI has yet to be published and therefore, there is no specific assessment of these projects. However, there is evidence regarding the increased participation of Spanish institutions in recognised publications and international projects and this would not have been possible without ERDF programmes.

In line with the national innovation strategy, grants and loans were delivered to Technology Centres (TCs) and Scientific and Technological Parks (STPs) for infrastructure and equipment in order to facilitate business innovation in several fields, covering both general or specific technologies and sector subjects (biology, biomedicine, agro-biotechnology, engineering, automation, aerospace, transportation, automotive, ICTs, energy, textile, food industries, etc.). Moreover, 194 RTDI centres were supported by central and regional governments in areas including laser application technologies, energy, new materials and nanotechnology, food, ICT networks, etc. These projects all contributed towards the creation and improvement of regional innovation systems. However, some centres and parks suffer from sustainability issues due to the fall in internal demand and private investment.

¹⁸ 2012 saw fewer target adjustments than the previous year. In some cases these correspond to reprogrammed reassignments, but in other cases adjustments appear to be implemented in order to correct forecasting errors or miscalculation.

¹⁹ This was the case with projects in singular scientific and technical facilities whose calls were not launched in 2012 (neither are they expected for 2013), as well as with advances of ERDF support to regional beneficiaries where a special permit from the Ministry of Finance is required (TF NOP, 2012 AIR, page 142-143).

²⁰ Informe SISE (Sistema Integral de Seguimiento y Evaluación) del Plan Nacional de I+D+I, 2010), Secretaria de Estado de Investigación, Desarrollo e Innovación, Madrid, 2011. According to this report, public calls for RTDI projects amounted to EUR 1,453 million (42% of the total). http://www.idi.mineco.gob.es/stfls/MICINN/PlanNacional/2008-2011/informe_sise_2010.pdf

Some evidence on the fact that STP and TCs are boosting SMEs' innovation and technology performance in Spanish regions is provided by the report Infyde ID 2011, as well as by the statistical analysis carried out by Barge-Gil et al (2011)²¹ on the differential impact on the productivity of SMEs located at STP, which is mentioned in section 3.

The highest share of gross job creation and induced investment of the ERDF programmes was a result of direct investment aid for companies. The indicator of gross job creation reached 61.7 thousand, whereby 67.6% of jobs created (41.7 thousand) were generated by direct investment aid for companies mostly in ERDF ROPs for Convergence regions. Innovation support for SMEs accounts for a sizeable part of job creation 14.6% (9,042). Overall, gross job creation in Spain represented 0.3% of the total number of employed people and 1.5% of unemployed people, which is a significant share when considering the alleviation of short-term unemployment.

Total induced investment in private companies amounted to EUR 10,100 million, representing an important share of the Spanish GDP at 0.9%. It concentrated on direct investment aid projects amounting to EUR 6,800 million (67.3% of total). Projects awarded by regional governments and their regional development agencies generated the highest portion of induced private investment 37.6% (EUR 3,800 million). However, despite its low performance level, the classical measure of regional incentives generated the second highest share of induced investment 28.0% (EUR 2,800 million) due to its targeting of relatively large companies and investment projects. Finally, RTD areas reached EUR 2,100 million (21.0%). However, these indicators mainly capture short-term results, whereas the highest impact of innovation and RTD will become evident in the long term through their impact on the increase in enterprises' competitiveness²².

The breakdown of the overall achievements of ERDF programmes into objectives showed that comparative support intensities were greater in areas with a lower level of development. Gross job creation represented a sizeable share of the employed population (0.8%) and unemployed population (3.0%) in the Convergence regions, while in Competitiveness and Phasing-in regions, the comparative effect was much lower, reaching 0.1% of the total number of employed people and 0.5% of the unemployed ones. The effects on alleviating unemployment can be seen as relatively important in Convergence regions.

Induced investment mainly stemmed from ROPs (around EUR 4,400 million in the Competitiveness and Phasing-in regions and EUR 4,800 million in the Convergence and Phasing-out regions). These figures represented approximately 0.6% of GDP in the Competitiveness regions with a greater effect in Convergence regions (1.5% of their GDP). Naturally, these effects are reduced when induced investment is annualised (considering that the programmes' length spans several years), but they continue to represent an important share of the total investment in Competitiveness regions, and especially in Convergence regions, those which lag behind the

²¹ Barge-Gil, A., Vasquez Urriago, A. and Modrego Rico, A. (2011), "El impacto de los parques científicos y tecnológicos españoles sobre la innovación empresarial según distintos tipos de empresas", *Información Comercial Española*, no. 860, pp. 73-88.

²² Beneficiary companies concentrated mainly in RTDI and linked activities (31.3%) and innovation support for SMEs (45.7%). Overall, around 4.3% of the total number of companies in the country was supported by ERDF programmes. Nevertheless, it is important to bear in mind that the system counts benefits, not companies, whereby some companies can be the beneficiary in more than one line in different periods of time.

rest significantly. Beneficiary companies mainly concentrated on support services and applications for SMEs, as well as on other measures in order to stimulate innovation and entrepreneurship (mainly ICTs) in SMEs and direct aid for investment projects. Overall, approximately 4.8% of the total number of companies in the country was supported by ERDF programmes²³. Nevertheless, it is important to bear in mind that the system considers beneficiaries, not companies, whereby some companies can be the beneficiary in more than one line in different periods of time.

Enterprise and RTDI Policy Area

Main points from the previous country report:

- Several interventions were undertaken to stimulate research and technological development in universities, public bodies and research centres (public or non-profit making). These interventions consisted of projects within the national RTDI which made good progress in reaching output indicators: 4,221 research projects²⁴ (61.4% Target Achievements Rate (TAR)) and 502 additional projects for purchases of scientific equipment and research communications networks. Furthermore, 4,899 research projects within regional RTDI plans were carried out through ROPs (83.2% TAR).
- In the area of RTDI infrastructures and equipment in specific technologies in line with the national innovation strategy, actions were undertaken through the TF NOP to enlarge and equip TCs and STPs with 9,570 projects for research infrastructure and equipment awarded to TCs and companies in STP²⁵. Moreover, the regional government also supported TCs and STPs by awarding 982 investment projects (63.5% TAR) to build and buy infrastructure and RTD equipment in specific technologies.
- Business RTDI projects at the national level were mainly delivered by the CDTI under the TF NOP. Its main outcome was the carrying out of 468 projects and EUR 368 million induced investment. Although the Technologic Fund (TF) is primarily geared towards Convergence regions, CDTI performance was poor in these regions (158 projects, a mere 33.4% TAR), which led to the commencement of the design of new measures (FEDER INTERCONECTA), which were better suited to regional features through negotiations with regional governments (application requirements were downgraded and the grant component increased). At the regional level, development agencies and regional governments stimulated RTDI projects in SMEs through ERDF ROPs with 2,062 projects, benefiting 2,317 companies. In Convergence regions a large part of these projects (591) were cooperative and involved 1,126 companies, while in Competitiveness regions 130 companies benefited.
- ICT and related services in Convergence regions were supported by the ERDF (through KBE NOP and Convergence ROPs. Measures to foster ICT in SMEs were undertaken at a

²³ In a similar manner, benefits for firms delivered through ERDF ROPs represented 4.5% of the total number of firms in Convergence regions, whilst this share fell to 2.2% in the competitiveness (and Phasing-in) regions. The large knowledge economy and TF NOPs went in the same direction, reaching 5.4% in Convergence regions (including) Phasing-in regions and shrinking to 0.1% in competitiveness.

²⁴ A special line in biomedicine RTD projects conducted by the Spanish Health Institute Carlos III delivered 1,087 research projects (supported by the KBE NOP and the ROPs of Catalonia, Euskadi and Madrid).

²⁵ The criteria for grouping projects was changed and targets were considerably exceeded (394% TAR).

national level under the auspices of the Ministry of Industry, through the demonstration of projects addressed to very small (micro) and SMEs. Reaching a large number of micro and small firms (over 30,000), these measures were complemented by regional development agencies and regional governments and benefited over 4,000 small companies. Furthermore, projects which contributed significantly to the computerisation of public administration and social services (especially education and health) were carried out through ROPs in Convergence regions, as well as in citizen services (civil registers and courts of justice) through the KBE NOP.

- Measures to foster private investment in order to create, modernise or enlarge companies were implemented through Convergence regions' ROPs through a general scheme of regional incentives managed by the central government and aimed at relatively large investment projects. Regional incentives did not perform well and merely 217 projects (17% TAR) were carried by 2011 with around 5,000 jobs created. However, regional development agencies and regional governments implemented measures to encourage investment for the creation and modernisation of enterprises whereby a large number of companies benefited (over 30,000) from direct investment aid projects resulting in support for 4,700 new start-ups.
- Financial Engineering Instruments (FEIs) were set up in ROPs for Andalusia and Catalonia in the form of a JEREMIE Fund, providing guarantees, loans and private equity for SMEs, as well as a guarantee fund managed by the ICO in the TF NOP.

Developments since the 2012 report

With regard to the public system of science and technology, 4,857 RTD projects consisting of grants, awarded through public calls with external evaluators, were carried out by research teams and groups in universities, public bodies and research centres (public or non-profit). This contributed to the fostering of research in the public and education system. These projects were relatively large, amounting to EUR 72 thousand on average. The upper part of the distribution was made up of projects greater than EUR 250 thousand (4.5% in number and 18.8% in expenditure) and these mainly concentrated on Space and Aerospace research, nuclear Physics, superconductors and supercomputing, as well as biomedicine (cancer, genetics), biotechnology, pollution control and climatic change. Projects in the range of EUR 250 – 100 thousand (representing 26.8% in number, 43.0% in expenditure) covered more research subjects including chemistry, environmental technologies, mechanical engineering, new materials (nano, ceramic), communications technology, as well as biomedicine, biotechnology, agrobiological, genetic selection, health and nutrition problems. The majority of the projects were worth less than EUR 100 thousand (representing 68% in number and 38.2% in expenditure) and covered a wide spectrum of research subjects, ranging from mathematics, electronics and robotics to management and economics (in a few cases) and as general rule included many other areas of a practical nature such as risk analysis, waste management, control of industrial processes and computerised semantic systems as well as epidemiology, control of animal and vegetal diseases and similar areas. These RTD projects were complemented by 982 projects for the purchase of scientific equipment, including equipment such as electron microscopes, high-resolution spectrometers for proteomics, and labs for recycling processes, as well as equipment for developing new materials, semi-liquid alloy continuous casting, and pre-industrialisation of stone compound materials and their budgets ranged from EUR 70 to 700 thousand (EUR 100

thousand on average). In a series of regions²⁶, local and regional governments as well as other bodies supported 9,804 projects of a relatively heterogeneous nature through the giving of grants stimulating regional scientific and technological research. As a general rule, these projects amounted to significantly less than those within the national RTDI plan and included funding to universities and other research centres, as well as cooperative projects with regional enterprises (3,057 - 31.2%) which were linked to specific regional problems and were aimed at the development of strategic areas, new knowledge and technology. Examples of some regional features are Andalusia and Extremadura in Convergence regions which have important projects in agro-technology, draft and pest control whereas Galicia supports agro-food industries (including seafood and the marine environment) as well as industrial sectors and universities. On the other hand, the Basque Country supports RTDI projects in large companies in industrial and services sectors as well as cooperative research centres (Biomagune, Microgune and Nanogune²⁷).

A large R&D project, the building of a nanotechnology centre (Iberian Nanotechnology Lab) was a remarkable achievement of the Spain-Portugal (North) ERDF border cooperation programme.

It is difficult to obtain direct evidence on the contribution of these activities to the effective fostering of high quality research and augmenting scientific and technological knowledge. However, the participation of Spanish researchers in scientific and technological forums, the applications to European Framework Programmes and international calls, as well as publications in high impact journals have all improved substantially in recent years. Some evidence from scientific literature showed that Spanish publications in indexed reviews doubled between 2003 (33,931) and 2012 (70,539, Scimago Journal & Country Rank), whilst joint publications in international partnerships grew from 11,252 to 29,224 in the same period (SCOPUS, Scimago Journal & Country Rank).

The map of singular scientific and technological infrastructures has been completed with a new oceanographic ship in Galicia²⁸.

Regarding technology transfer oriented towards infrastructures and equipment, the number of projects implemented in the TF NOP reached 9,570 in number (58.7% of them in Convergence and transition regime regions) and 194 RTDI centres were supported through the TF NOP. Furthermore 1,280 projects (75.7% of them in Convergence regions) were carried out in ROPs. STPs and TCs were supported in undertaking projects mostly for the purchase of fixed assets and equipment in order to facilitate business innovation in several fields covering both general or specific technologies and sectorial subjects (biology, biomedicine, agro-biotechnology, engineering, automation, aerospace, transportation, automotive, ICTs, energy, textile, food industries, etc.). Amongst the RTDI centres, it is worth mentioning the Centre for the Interchange of Knowledge and Innovation (ESPAITEC) in Valencia, the Centre for Innovation and Technology Transfer (CIT Andalusia), the Sport and Health University Research Institute in Granada, the Industrial TC of Extremadura (CETIEX), as well as the ENERGYLAB (TC for

²⁶ Mainly in Convergence regions Andalusia, Asturias, Castilla La Mancha, Extremadura, Galicia and Murcia, as well as in some competitiveness regions: Castilla Leon, the Basque Country and Navarra.

²⁷ The Word "gune" means site in the Basque language.

²⁸ Within projects for scientific and technological infrastructure and equipment, a coastal oceanographic catamaran was built in the Balearic Islands.

efficiency and sustainable energy), the Centre for Advanced (non-invasive) Medical Technologies (TECMEVA) in Galicia and the Biomedicine and Biotechnology Institute of Cantabria.

Furthermore, 163 centres in the Competitiveness objective and 140 in Convergence regions) were supported. The Biomedical Research Centre (CIBM), the Scientific Research Centre Isla de la Cartuja (CICCartuja) and the Andalusian Centre for Nanomedicine and Biotechnology (BIONAND) in Andalusia; the North West Metallurgical Association, AIMEN (Laser Application Centre) and the Biomedical Research Centre of the Santiago University in Galicia; LEITAT central laboratories, the Park Techno-Campus Mataró-Maresme and the Telecommunications TC (CTTC) in Catalonia; the Madrid Scientific Park (PCM), as well as the Electrical Technology Institute of Valencia and many others all across Spanish regions can be named as beneficiaries.

In line with their RTD plans and strategies, regional governments also provided support for infrastructure and RTD equipment for specific technologies. These measures included medium sized projects focused on the building and equipment of technological centres as well as smaller projects for the purchase of technological equipment. Most of Spanish Convergence and Competitiveness regions reinforced their regional innovation system through the building of research and innovation capabilities in Centres for specific technologies, usually related to the needs of the regional productive fabric.

In addition to the centres outlined in last year's report, the number of research centres in Madrid, the IMDEA (Madrid Institute for Advanced Studies: materials, food, networks and others) have been completed with IMDEA Water and IMDEA Nano-science. In Catalonia, in addition to the examples quoted last year (Common services for nanotechnology research, the Catalan Institute of Palaeontology) the new Institute of Photonic Science (ICFO), and the modular building of the scientific unit in the Biomedical Research Park Vall d'Hebron in Barcelona, as well as the Sustainable Chemistry Research Centre in the Tarragona Scientific and the Technological Park are all worth mentioning.

In terms of support for business RTDI projects, the performance of the Spanish Centre for Technological Industrial Development was improved. The number of projects increased to 833 (20.8% TAR) with EUR 672.4 million induced private investment and a relatively high amount of project average (EUR 807.2 thousand). The progress in output was relatively higher in the competence and transitory regime regions, where the number of projects more than doubled. In the upper part of the distribution 40% of large projects (more than EUR 200 thousand) envisaged topics ranging from technological development and optimization of industrial processes (automobile, machines, energy efficiency, recycling) and artificial intelligence and smart grids to pharmacology, biotechnology, animal nutrition and aquiculture, as well as product innovation in food industry. The majority of the projects in the range EUR 60 - 200 thousand (60%) covering a wide spectrum of subjects mainly focused on product innovation in consumption goods (new materials in textile, home and construction, as well as drink and food products) and industrial or intermediate products (machinery, intelligent lightening, corrosion resistant alloys, software applications, magnetic induction, etc.), as well as industrial processes and applications (new packaging systems, optimization of energy consumption, food processing, etc.) and biological processes (animal nutrition, genetic selection, etc.)

The poor performance of CDTI in Convergence regions was met by negotiations with regional governments which resulted in a new measure, FEDER-INTERCONECTA, aimed at fostering business RTDI projects implemented by companies' consortia. The measure was redesigned and specifically adapted to the features of Convergence regions, by the awarding of non-reimbursable grants and the downgrading of the minimum required budget to EUR 1.5 million²⁹. The new calls were launched in Andalusia and Galicia in October and November of 2011. According to the submitted applications, it is expected that the execution process will be given a new boost, despite the remaining difficulty of economic conditions and the financial hardships of several of the companies with awarded projects. The first impression of the second call of FEDER-INTERCONECTA in Galicia obtained from recent data, points to 79 projects selected and 291 companies benefited (69% SMEs), mobilising EUR 291 million (3.6 by project) of induced private investment with awarded grants amounting to EUR 79 million (27.1% of induced investment).

The idea of enhancing business networking and cooperation in RTDI projects, similarly to FEDER-INTERCONECTA, has been implemented on a smaller scale in Galicia with a new call (CONECTA-SME_s³⁰, EUR 13.8 million, 80% ERDF) in order to reach uncovered segments of regional SMES which have a good number of applications and decent implementation prospects. The remaining regional aids used to stimulate RTDI projects in SMEs in Convergence and transitory regimen regions continued to display progress in implementation both in output indicators, (3,264 projects, around 50% increase, reaching 74% TAR³¹) and expenditure (FIR increased from 38.4 to 46.1%); on the other hand, Competitiveness regions exhibited a low performance (15% TAR and 23% FIR). These projects were worth considerably less than those of the CDTI. The upper part of the distribution, except for a handful of 32 projects, was in the range of EUR 200 – 60 thousand, these projects (259, representing 8% of total number and 24.6% of expenditure) covered a variety of subjects going from industrial products (new alloys for trolley wire, special chassis, sealing technologies, new aircraft materials, etc.), as well as systems and processes control (quality control, parameters in thermal facilities, autonomous reset in computer servers, GPS and digital home devices, etc.) to biomedicine, biology and agrobiolgy (evaluation of medical treatments in Alzheimer and diabetes, animal and plants diseases and genetic selection). The rest of the projects were less than EUR 60 thousand addressing a multitude of specific industrial, services and business projects.

These projects undoubtedly contributed to the generation of RTDI and the reinforcement of innovation systems in Spain, but it is difficult to ascertain their impact due to the lack of evaluation on the subject. However, both evidence from publications and participation in European FW projects give some support to the general assessment of their effectiveness. Recent information on the results of the Spanish projects included in the Seventh Framework Programme of the EU (CDTI, 2013)³² is available. According to the provisional results available,

²⁹ Consortia have to be made of a minimum of 3 companies and a minimum of 15% of their budget must be outsourced.

³⁰ Project budgets must be in the range of EUR 0.6 - 1.5 million and the consortia must be made of at least one Technological Centre and a number of companies in the range of 3 – 6.

³¹ To a lesser extent in beneficiary companies (2,549 with a 67% TAR) resulting in an average of 1.3 projects per company.

³² CDTI (2013), "Resultados provisionales de la participación española en el VII Programa Marco de I+D de la Unión Europea (2007-2012)", Perspectiva CDTI, no. 41, January 2013, www.cdti.es

the Spanish entities have obtained funding of EUR 2,300.3 million from the Seventh Framework Programme to date, representing 8.3% of the programme returns (compared to 6.5% for the Sixth Framework Programme) from the budget awarded in competitive calls in the EU-27, which will require an investment in Spain of close to EUR 3,300 million in R&D activities. In turn, Spain's leadership in the coordination of projects has been consolidated, rising to 10.4% of the total number of projects (compared to 6.3% in the previous Sixth Framework Programme). The distribution by sectors also shows promising results in the progress of private RTD, as it contributes 45% of the returns (33.2% from enterprises and 11.9% from TCs)

Regarding the promotion of ICTs in SMEs, the output indicators from the AVANZA SME programme and the other actions remained stable in 2012. This was also the case with ICT and related services in the social and public administration sectors. ERDF programmes (mainly KBE NOP and Convergence ROPs) contributed towards important achievements in the computerisation of public administration and social services (especially education and health), as well as in citizen services (civil registers and courts of justice). Output indicators remained relatively stable in Convergence ROPs with 1,041 projects (82% TAR and 70% FIR³³) carried out (especially in Galicia and Andalusia), but were significantly less stable in the Competitiveness ROP of Madrid, with approximately 900 companies benefitting from these projects.

In direct investment aid for business projects through the creating, modernising or enlarging of companies, regional incentives experienced a slight improvement in 2012 after having lost much of its standing as a formerly powerful measure with the economic downturn. The number of projects grew from 217 to 280 projects with EUR 2,839.7 million of induced investment and around 6,290 jobs were created, but these results were relatively poor once taking into account the size and importance of this measure. Regional incentives were reprogrammed to tackle underperformance and both target and financial implementation rates have improved in 2012 (31.6% TAR and 39.4% FIR).

Furthermore, regional development agencies and regional governments implemented measures to encourage investment in the creation and modernisation of enterprises, resulting in a large number of companies benefitting (over 30,000) through direct investment aid projects and the support of 4,700 new start-ups.

FEIs were initially set up in the ROPs for Andalusia and Catalonia in the form of JEREMIE funds, providing guarantees, loans and private equity for SMEs. Another JEREMIE fund was established in the TF NOP, providing guarantees for those SMEs, which were beneficiaries of business RTDI support granted by the CDTI. Furthermore, JESSICA³⁴ funds aimed at projects in the area of energy conservation were set up in ROPs by the Spanish Institute for Energy Efficiency (IDEA) as well as for projects in urban development in the Andalusia ROP but to date, these have not produced any significant achievements.

The JEREMIE fund of the ICO managed a guarantee fund providing collateral to the companies which were beneficiaries of a reimbursable aid granted by the CDTI for the undertaking of a business RTDI project. This fund has delivered EUR 53.5 million in guarantees to 173 companies

³³ Madrid's financial implementation ratio is much lower, at 56% in 2012.

³⁴ Joint European Support for Sustainable Investment in City Areas.

(78% SMEs) with EUR 91.3 million induced investment. The Catalonia JEREMIE fund has formed agreements with managing institutions (funds and private investors networks) to start venture capital and private equity (co-investment) lines, but the main achievements are still concentrated in guarantees with 675 projects awarded an amount of EUR 82 million (EUR 121.5 thousand on average). The Andalusia JEREMIE has mobilised funding in the amount of EUR 140.1 million to 66 enterprises (94% SMEs) with operations distributed in ordinary loans (40.5%), equity loans (39.2%) and private equity (15.2%), as well as a residual 5.1% in guarantees. The impacts (presented in the 2012 AIR of the Andalusia ROP) provide interesting results with an induced investment of EUR 471.7 million (30% financed by JEREMIE) and 7,847 jobs created.

As mentioned previously in section 2, new financial instruments have been created in multi-objective national programmes by the ICO and the CDTI, as well as in the ROPs of Extremadura and the Canary Islands (where another financial instrument, specifically aimed at financing SMEs without requiring them to be innovative, was created this year). In addition to their pursued aims, these financial instruments also enable the acceleration of implementation, obtaining an additional number of years (until 2015) in which to execute expenditure. By way of example, the new JEREMIE CDTI (ERDF assistance EUR 105.3 million and national public co-financing EUR 37.3 million), created for the purpose of co-financing innovation projects with subsidised loans (CDTI line of innovation) has contributed –among other measures- to an increase in the CDTI’s implementation rate to 43.5%.

Transport policy area

Main points from the previous country report:

- In relation to railways, following the commencement of the operation of the high-speed train line between Madrid-Valencia at the end of 2010, construction continued on a series of high-speed lines in Castile-Leon, Extremadura, Murcia and Andalusia, although no remarkable achievements have been reported to date.
- New roads were built and existing roads were reconstructed in Convergence regions (total km 2,186). The largest part of rebuilt roads was in Andalusia.
- Interventions, mostly consisting of the enlargement of terminals and runways, parking and road construction, remodelling electrical systems and similar works in airports, as well as the construction of infrastructure and port terminals, expansion of dams, piers and docks were carried out in airports and ports. The number of actions carried out in terms of % of set targets was satisfactory (73% in airports and 52% in ports). The initiatives were geographically concentrated (e.g. Algeciras in Andalusia). The main tangible outputs and results are 9,069 m of dam (40.4% TAR), 3,776 m of quay (60.5%) and 358 m of built platform (TAR 63.1%).

Developments since the 2012 report

Annex Table E shows the main indicators in the transport policy area and target achievement rates in 2012, as well as the increments between 2011 and 2012 in order to facilitate comparisons. The more remarkable features, most of which are included in Table 5, are commented below.

Total achievements so far in high-speed rail networks resulted in a total of 683 km³⁵ of track in 2012 (representing 22% of the total number of lines in service as of January 2013). Unlike the previous year, progress for this indicator accelerated in 2012, increasing by approximately 17%.

In terms of road networks, actions were limited to Convergence and Phasing-out regions, with an important increase in achievements close to, or higher than 20% in new roads and new TEN roads respectively. The joint values for both types of roads (690 km) represent little more than 1% of the total road network and 10% of the high capacity network in the Convergence regions. The majority of the actions were carried out in Andalusia, Galicia and Extremadura³⁶.

In the case of airports and ports, the indicators for the actions carried out continue to show progress, with achievement ratios of 90% and 65% of their respective targets, relatively in line with their financial implementation (98% and 65%, respectively). Airport actions focused on the Canary Islands and Valencia, as well as on Andalusia, Galicia and Murcia, including the expansion of the terminal building in the airport of Vigo, construction of the firefighting building in Almeria airport, construction of an heliport at Algeciras, runway extension of Cordoba and Jerez airports, adapting to the rules of the airports of Gran Canaria, South Tenerife, Valencia, Jaen and Seville, adequacy of billing and shipping areas of Murcia airport, and installation of baggage hold inspection at the airports of Santiago de Compostela and Fuerteventura. The actions carried out in ports mainly consisted of extending docks (9,069 m.) and quays (3,776 m.), as well as conditioning port areas (1,274,218.4 sq. m.), with the majority corresponding to Algeciras (Andalusia) and Avilés (Asturias). Examples include: the expansion of the port of Valencia, development of the port of Aviles, construction of new facilities in the outer port of Coruña, construction of the new container terminal in the port of Cadiz, construction of a border inspection post at the port of Almeria and the expansion of riverside quays in Carboneras.

Environment Policy Area

Main points from the previous country report:

- In previous years, several interventions in household waste management were implemented to improve waste separation, to establish compost creation plants and to adapt waste disposal sites to EU regulations (closure of dumps, prevention of excessive waste and recycling). Last year, 60 new projects in urban waste management were undertaken. The output achievements consisted mainly of plant improvements in classification and recovery and composting, recycling centres and landfill sealing.
- Interventions were carried out to promote the renovation, expansion and renewal of the water supply networks and 1.6 million people were provided with drinking water using distribution systems. Moreover, major drainage projects from dams and supply lines

³⁵ Kilometres of high-speed lines in Spain are a complex issue due to the existence of two kinds of indicators. A specific indicator for the length of high-speed tracks (indicator number 43) is employed in the Spanish ERDF programmes, while the core indicator C18, km of TEN Railways, is used in the Cohesion Fund Programme in Spain to capture the length of high-speed train lines. The figure in the text is composed of 586 km of high-speed tracks (indicator 43) plus 97 km of TEN Railway in the Cohesion Fund Programme (indicator C18).

³⁶ Road reconstruction projects were also carried out, especially in Andalusia, although the indicator has problems in terms of consistency, with annual highs and lows that are difficult to believe.

were undertaken to improve the supply to towns and cities, as well as the creation of several plants for the treatment of drinking water.

- In Convergence regions, sanitation networks were established and Wastewater Treatment Plants (WWTP) either improved or expanded. In Cohesion Fund NOP, actions for improving the integrated water cycle and for upgrading WWTPs were also implemented. The additional population connected to water purification systems reached 3.4 million people in 2011. The projects consisted of the construction, expansion and improvement of sewage treatment systems, waste collectors and clustering, etc.
- Finally, regarding the promotion of biodiversity and the protection of the natural environment, achievements in Convergence regions included planning of conservation areas and protection zones for birds, as well as the protection and restoration of natural areas, the promotion of biodiversity in forest ecosystems and river areas and the conservation and recovery of flora and fauna. In Competitiveness regions, a series of projects were implemented in the fields of infrastructure and sustainable management in protected areas, habitat restoration and improving environment-friendly recreational areas. Furthermore, in environmental protection, projects for the control of air pollution increased substantially in the Convergence programmes such as air quality networks of environmental laboratories. Less progress was recorded in Competitiveness regions.

Developments since the 2012 report

Annex Table F shows the main indicators in the Environment and Energy Policy areas, as well as the increases in achievements and TARs for last year. The main points offered in Table 5 are commented on next.

In household waste management and waste disposal, the number of projects carried out experienced fast progress and reached 51% of the objective (TAR). The actions are in line with the pursued objectives concentrated in the sealing and land rehabilitation of dumps (Aiello di Malferit Nules and Elda in Valencia, Arjona, Rus and Vilches in Andalusia, As Nogais in Galicia, Mendo, Zurita, La Dehesa and Lanzarote in the Canary Islands), as well as the optimisation of selective collection, recycling centres, construction of collection points and USW container acquisition.

Regarding renovation, expansion and renewal of water supply networks, projects continued running in accordance with the objectives and the additional population served by water projects increased to 2.1 million (3.7% of Spanish population). The main achievements quoted in the 2012 AIRs include the replacement of the Camporredondo dam floodgates (Palencia), the water supply enhancement of Burgos, and the improved supply of Campo de Gibraltar and El Romeral (Cádiz) amongst other.

Significant problems have surfaced in connection to the imbalance in the water supply in vast parts of the south and east of the peninsula, as well as in the Canary Islands. The construction of desalination plants was decided on at a time of economic growth and during the real estate boom, resulting in the design of projects, which foresaw high rates of growth in urban development and in the water demand. Consequently, some of these plants now have excess capacity. The most important desalination plants are located in Valencia (Sagunto, Mutxamel, Moncofary, Oropesa de Mar) and Andalusia (Carboneras).

In wastewater purification projects, actions were carried out in line with programming whereby the population benefiting from wastewater projects grew to 3.4 million people (6.1% of Spanish population). The most significant achievements in 2012 (Convergence and transitory regime ROPs and Cohesion Fund) include the treatment and wastewater reuse and interconnection of WWTPs of Rejas and La Gavia (Madrid), the construction of new WWTPs in Algeciras (Cádiz) and Toledo and the construction of storm ponds (large tanks, especially designed to collect rain water in order to avoid flooding) in Almagro, Bolaños, Fuente el Fresno (Castilla-La Mancha).

In Spain, water quality fails to meet European standards in many cases, partly due to unsatisfied requirements in purification facilities (many waste water purification plants are still under construction, and there are some unattended needs), many of which are not operating at optimum capacity. It would be tempting to conclude that the problem stems from the high operating costs of these infrastructures but the situation is more complex and includes the unforeseen difficulties arising from the local authorities' management of the plants. Finding the necessary technical staff and implementing the most recommended treatments (chemical additives, oxigen, ultraviolet radiation, etc.) of wastewater purification proved to be difficult and more awareness campaigns for the general public should have been carried out (in Spain there is a marked tendency towards rejecting increased water costs). In tourist areas, seasonality is a determining factor in the efficiency of WWTPs as these operate at full capacity during the summer season and are under-utilised throughout the rest of the year (Sala-Garrido et al., 2011).

Territorial development policy area

Main points from the previous country report:

- 2011 saw a slight increase social infrastructure actions with 490 education centres and 90 social centres built or reformed in Convergence and Phasing out ROPs. Whilst the level of project realisation was relatively high in the field of education (in the range of 72- 80% TAR), it was well below targets in the field of social services at 22% TAR (equal opportunities and social inclusion, minorities, disabled, elderly, drug rehabilitation or child protection). In health, targets were exceeded in Convergence regions, (136% TAR) with the building of health centres and the purchase of health equipment. No remarkable achievements were reported in 2012.
- Tourism projects in the Convergence regions, with a relatively low TAR (25%), increased by 20% in the area of support to tourism services and in the conservation of natural heritage. In Convergence regions, projects usually involved the supporting of local authorities and tourism-related enterprises (modernisation, expansion, marketing and promotional activities), whereas in the Competitiveness objective regions (with 53% TAR), projects tended to focus on socio-cultural municipal facilities and actions aimed at attracting visitors to villages in rural areas.
- Cultural heritage projects (churches, monuments, museums, libraries and cultural centres) increased by almost 100%. Cultural facilities were concentrated in Galicia and cultural heritage in Galicia and Extremadura. In competitive regions, projects related to cultural heritage increased by 31%. In Aragon, they are aimed at promoting natural resources and heritage, whereas in Catalonia they are aimed at supporting tourism

services. In the field of cultural heritage projects, Aragon, Catalonia and the Basque Country are highlighted.

- The areas of local development and urban regeneration made some progress last year, although their realisations are still far from the targets (between 7% and 14% TAR).

Developments since the 2012 report

Project actions in social service infrastructures for equality and inclusion increased significantly (90%), and the target achievement rate was duplicated to 41% (TAR) in line with the programme plan (the FIR ratio also increased significantly, from 31% to 41%).

In the area of tourism, project actions were stabilised in the Competitiveness and Phasing-in regions, while they rose by 21% in the Convergence regions. The respective target achievement rates also evolved differently in both types of regions: in the Convergence regions, relatively in line with the indicators, the TAR rose from 25% to 32%, while in the Competitiveness regions, the TAR rose from 53% to 78%, mainly due to correcting the forecast errors of the indicators, and to a lesser extent as a result of the downward reprogramming of financing.

In cultural heritage, the rhythm of projects' growth was duplicated in the Convergence regions, with the TAR rising from 56% to 89%, as well as the financial implementation ratios, which rose from 45% to 60%. However, this effect was strengthened with a slightly downward reprogramming of financing, so that although we cannot exclude forecasting errors in the objectives, the measure is clearly progressing.

Finally, in planning and rehabilitation in urban areas, an important measure responsible for a significant part of the allocated financing, the indicators initially advanced this year, with 12 integral urban development projects completed (4% TAR) in the ROPs of Castile-León (2: Palencia and Burgos), Valencia (3: Alicante, Gandia and Torrent), Canary Islands (2: Arona and Santa Lucia de Tirajana), Andalusia (1: Moron de la Frontera), Asturias (1: Oviedo), Ceuta (1) and Galicia (2: A Coruña y Ferrol).

In Spain there is widespread experience in these projects, which correspond to the former "Urban" initiative and are now included in the mainstream of the ROPs. Nevertheless, these projects took some time to set underway due to the difficulty in defining and agreeing on the integral urban development actions with all of the parties involved, as well as the time taken for the subsequent approval of the projects. Moreover, the property crisis caused a major downturn in the income of local authorities, causing additional difficulties, which resulted in the government creating a special line of funding to pay off supplier debts, which had not been paid by the local authorities, making it easier to execute the ERDF projects. Few projects have failed to date.

AIRs 2012

In comparison to the information for 2011, the information included in the AIRs for 2012, has undergone significant improvements with regard to the informative content on the actions, providing more visible information on the main implementation problems, usually located in separate sections in the section on implementation by priorities, together with a number of improvements in the initial sections on the main achievements in the different axes (priorities).

Despite this, there is room for improvement in the reports in terms of:

- The informative content of the projects: a large number of administrative details are provided without clearly and concisely explaining their completion status, meaning that it is often difficult to know whether the projects have been completed.
- The information on indicators is provided at axis or priority level, which is too aggregated to enable relating it to the qualitative information on the different measures. This should be broken down into the main sub-areas or measures within each axis.

No attempt has been launched to overcome these problems. Final reports have improved considerably with a clarification of achievements, but measures should be taken to improve reporting on the significance of realisations and their links with the main indicators.

Table 5A - Main physical indicators and achievements (2012)

MULTI-OBJECTIVE		
Policy area	Main indicators	Outcomes and results
Enterprise support and RTDI	<p><u>C4</u>: No. RTD Projects: 19,125 (80.7% TAR) 5,839 large research and equipment projects supporting to an important extent the operation of the Spanish system of Science and Technology (amounting to 42% of the public calls for RTDI projects of the National RTDI Plan in 2010) 9,570 infrastructures and equipment projects for TCs and companies in STPs to increase business innovation. 833 large and medium size business RTDI projects. <u>C5</u>: No. cooperation project enterprises-research institutions: 1,321 (16.4% TAR) Busting technology transfer to facilitate slipovers on business innovation <u>C9</u>: Jobs created (gross, full time equivalent): 570 (35.3% TAR) <u>C10</u>: Induced investment: EUR 902.8 million (25.2% TAR), representing 0.4% of average gross capital formation in the period</p> <p><u>C11</u>: No. of Information Society Projects: 548 (199.3% TAR) <u>68</u>: No. of Beneficiary Companies: 61,012 (63.8% TAR)</p>	<p>Impulse public RTDI system</p> <p>Impulse knowledge transfer and cooperation</p> <p>RTDI projects in companies</p> <p>Important computerisation in public administration in Citizen Services (civil registers and courts of justice) Demonstration and consultancy in ICTs for SMEs and very small (micro) enterprises</p>
Transport and telecom.	<u>C18</u> : Km new TEN railway: 97.1 (99.1% TAR)	Territorial connection and Interregional solidarity Accessibility and market access
Environment and energy	<p><u>C25</u>: Additional population served by distribution systems of water (drinking water): 1,253,936 (25.0% TAR) <u>C26</u>: additional population served by water treatment systems (wastewater): 1,654,906 (30.1% TAR)</p>	Purifiers for water supply Waste water treatment and sewage. Environmental improvement, adaptation to EU Directive
CONVERGENCE OBJECTIVE		
Policy area	Main indicators	Outcomes and results
Enterprise support and RTDI	<p><u>C4</u>: No. RTD Projects: 7,073 (85.4% TAR) <u>C5</u>: No. cooperation project enterprises-research institutions: 2,610 (65.0% TAR) Medium and small research projects for regional research and innovation system busting technology transfer to facilitate slipovers on business innovation and development of regional strategic areas. <u>C7</u>: No. direct investment aid projects to SMEs: 16,809 (36.2% TAR) 280 large regional incentives investment projects, and medium size and small regional projects. <u>C8</u>: No. of start-ups supported: 1,103 (24.8% TAR), representing 1.1% of average start-ups created in 2007-2010. <u>C9</u>: Jobs created (gross, full time equivalent): 49,858 (38.0% TAR) <u>C10</u>: Induced investment: EUR 4,765.5 million (35.0% TAR), representing 1.8% of average gross capital formation <u>C11</u>: No. of Information Society Projects: 4,737 (51.5% TAR) <u>68</u>: No. of Beneficiary Companies: 48,739 (39.7% TAR)</p>	<p>Impulse public RTDI system, Impulse knowledge transfer and cooperation and Support to RTDI projects in companies</p> <p>Fostering investment and encouraging creation and modernization of enterprises.</p> <p>Computerization of Public Administration and social services (especially education and health) and diffusion of ICTs in small companies</p>
Transport and telecom.	<p><u>43</u>: Km high-speed railways: 533.4 (310.1% TAR) <u>C14</u>: Km new roads: 509.4 (68.7% TAR) <u>C15</u>: Km new TEN roads: 186.4 (127.2% TAR)</p>	Territorial connection and Interregional solidarity Accessibility and market access
Environment and energy	<p><u>10</u>: Projects developed in areas within Natura 2000 Network: 277 (71.6% TAR) <u>14</u>: Actions developed in areas outside Natura 2000 Network: 597 (146.0% TAR) The promotion of biodiversity in forest ecosystems and river areas and the conservation and recovery of flora and fauna <u>C25</u>: Additional population served by distribution systems of water (drinking water): 811,390 (17.6% TAR) <u>C26</u>: additional population served by water treatment systems (wastewater): 1,623,908 (44.3% TAR)</p>	<p>Protection and restoration of natural areas.</p> <p>Purifiers for water supply Waste water treatment and sewage. Environmental improvement, adaptation to EU Directive.</p>

MULTI-OBJECTIVE		
Policy area	Main indicators	Outcomes and results
Territorial development	<p><u>33</u>: Centres built and/or reformed: 610 (51.7% TAR) Most of them educational and others social (disabled, elderly, drug, rehabilitation or child protection)</p> <p><u>34</u>: Health centres built and/or reformed: 443 (89.3% TAR)</p> <p><u>180</u>: No. of projects of Protection and preservation of cultural heritage: 780 (101.2% TAR) Preservation of churches, monuments, museums, libraries and cultural centres.</p> <p><u>C34</u>: No. of projects of natural heritage and tourist services: 2,250 (32.2% TAR) Conditioning singular areas and promotional activities</p> <p><u>C9</u>: Jobs created (gross, full time equivalent): 79 (4.0% TAR)</p> <p><u>C11</u>: No. of Information Society Projects: 778 (62.2% TAR)</p>	<p>Infrastructure to improve human capital (learning, health and other social services).</p> <p>Protection and preservation of natural and cultural heritage.</p>
COMPETITIVENESS AND EMPLOYMENT OBJECTIVE		
Policy area	Main indicators	Outcomes and results
Enterprise support and RTDI	<p><u>C4</u>: No. of RTD Projects: 11,020 (61.1% TAR)</p> <p><u>C5</u>: No. cooperation project enterprises-research institutions: 3,096 (90.9%) Medium and small research projects for regional research and innovation system busting technology transfer to facilitate slipovers on business innovation and development of regional strategic areas.</p> <p><u>C7</u>: No. direct investment aid projects to SMEs: 27,225 (76.4%) medium size and small regional projects</p> <p><u>C8</u>: No. of start-ups supported: 4,443 (82.8%), representing 4.4% of average start-ups created in 2007-2010</p> <p><u>C9</u>: Jobs created (gross, full time equivalent): 11,206 (33.3%)</p> <p><u>C10</u>: Induced investment: EUR 4,420.1 million (46.3%), representing 1.7% of average gross capital formation</p> <p><u>C11</u>: No. of Information Society Projects: 2,017 (48.3%)</p> <p><u>68</u>: No. of Beneficiary Companies: 49,341 (50.6% TAR)</p>	<p>Impulse public RTDI system, Impulse knowledge transfer and cooperation and Support to RTDI projects in companies</p> <p>Fostering investment and encouraging creation and modernization of enterprises.</p> <p>Computerization of Public Administration and social services (especially education and health) and diffusion of ICTs in small companies</p>
Transport and telecom.	<p><u>43</u>: Km high-speed railways: 52.3 (54.1%)</p> <p><u>C18</u>: Km new TEN railway: 16.7 (18.7%)</p>	<p>Territorial connection and Interregional solidarity Accessibility and market access</p>
Environment and energy	<p><u>10</u>: Projects developed in areas within Natura 2000 Network: 84 (63.0%)</p> <p><u>14</u>: Actions developed in areas outside Natura 2000 Network: 42 (60.4%)</p> <p><u>C25</u>: Additional population served by distribution systems of water (drinking water): 109,589 (8.0%)</p> <p><u>C26</u>: additional population served by water treatment systems (wastewater): 160,409 (11.0%)</p>	<p>Infrastructure and sustainable management in protected areas, habitat restoration and improving environment-friendly recreational areas</p>
Territorial development	<p><u>34</u>: Health centres built and/or reformed: 8 (100.0%)</p> <p><u>C11</u>: No. of Information Society Projects: 15 (187.5%)</p> <p><u>180</u>: No. of projects of Protection and preservation of cultural heritage: 195 (60.1%)</p> <p><u>C34</u>: No. of projects of natural heritage and tourist services: 421 (78.7%) Socio-cultural municipal equipment and actions intended visitors to villages in rural areas</p>	<p>Protection and preservation of natural and cultural heritage.</p>

Table 5B - Summary table of main physical indicators and achievements (Convergence + Competitiveness, 2012)

Policy area	Main indicators	Outcomes and results
Enterprise support and RTDI	C4: No. RTD Projects: 37,218 (74.4% TAR), of which 13,604 correspond to business RTDI projects, representing 0.4% of annual average of companies in the period	Impulse public RTDI system, Impulse knowledge transfer and cooperation and Support to RTDI projects in companies
	C5: No. cooperation project enterprises-research institutions: 7,027 (45.4% TAR)	Impulse knowledge transfer and cooperation
	C7: No. direct investment aid projects to SMEs: 44,034 (53.7% TAR)	Fostering investment and encouraging creation and modernization of enterprises.
	C8: No. of start-ups supported: 5,546 (56.5% TAR), representing 5.5% of annual average of start-ups created in 2007-2010.	
	C9: Jobs created (gross, full time equivalent): 61,634 (37.0% TAR), representing 0.3% of annual average jobs created in the period	
	C10: Induced investment: EUR 10,088.37 million (37.7% TAR), representing 3.9% of annual average gross capital formation in the period	
	C11: No. of Information Society Projects: 7,302 (53.5% TAR)	Important computerisation in public administration in Citizen Services (civil registers and courts of justice), in Social Services (especially education and health) and diffusion of ICTs in small companies
	68: No. of Beneficiary Companies: 159,092 (50.3% TAR), representing 4.8% of annual average of companies in the period	Demonstration and consultancy in ICTs for SMEs and very small (micro) enterprises
Transport and telecom.	C14: Km new roads: 509.4 (68.7% TAR), representing 0.003% of annual average of roads in the period	
	C15: Km new TEN roads: 186.4 (127.2% TAR), representing 0.013% of average total motorways in the period	
	C18: Km new TEN railway: 114 (44.3% TAR), representing 0.008% of annual average of railways in the period	Territorial connection and Interregional solidarity, Accessibility and market access
	43: Km high-speed railways: 683 (217.9% TAR), representing 22% of annual average of high-speed railway network in the period	Territorial connection and Interregional solidarity
Environment and energy	10: Projects developed in areas within Natura 2000 Network: 361 (69.4% TAR)	Protection and restoration of natural areas. Infrastructure and sustainable management in protected areas, habitat restoration and improving environment-friendly recreational areas
	14: Actions developed in areas outside Natura 2000 Network: 639 (133.6% TAR)	
	C25: Additional population served by distribution systems of water (drinking water): 2,174,915 (19.8% TAR), representing 3.8% of Spain population	Purifiers for water supply
	C26: Additional population served by water treatment systems (wastewater): 3,439,223 (32.4% TAR), representing 6.1% of Spain population	Waste water treatment and sewage. Environmental improvement, adaptation to EU Directive
Territorial development	33: Centres built and/or reformed: 610 (51.7% TAR)	Infrastructure to improve human capital (learning, health and other social services) Most of them educational and others social (disabled, elderly, drug, rehabilitation or child protection)
	34: Health centres built and/or reformed: 451 (89.5%), representing 127,8% of total public hospitals in 2009	
	180: No. of projects of Protection and preservation of cultural heritage: 975 (89.0%)	Protection and preservation of natural and cultural heritage
	C11: No. of Information Society Projects: 793 (63.0%)	
	C34: No. of projects of natural heritage and tourist services: 2,671 (35.5%)	

Table 5B shows the consolidated figures of the main achievements broken down by policy areas. In the RTDI policy area, a large number of RTD projects for universities and research centres (5.8 thousand, representing 42% of public calls for RTDI projects of the National RTDI Plan in 2010), a number of cooperative projects between companies and research and technological institutions (7.0 thousand, representing 0.22% of the annual average of companies in 2010) and a series of business RTDI projects are worth mentioning (13.6 thousand, reaching 0.4% of the annual average of companies in 2010). Furthermore, 5.5 thousand start-ups were supported (0.22% of the annual average of business started in 2007-2010) and 44,000 direct investment aid projects (the vast majority of them addressed to SMEs) were awarded to companies (representing 1.3% of the annual average of companies in the period). Finally, 61.6 thousand gross jobs were created (0.3% of the annual average of job creation), whereas induced investment amounted to Euro 10,000 million (3.9% of the annual average of gross capital formation). The main achievements in the other policy areas include 683 Km of new high-speed railways built (22% of the High-speed network in the country), as well as the additional population served by drinking water distribution systems (2.2 million people, representing 3.8% of the annual average population in the period) and wastewater systems (3.4 million people, representing 6.1% of the annual average total population in the period).

3. Effects of intervention

Main points from the previous country report:

- Most of the weaknesses of the Spanish economy, apart from the devastating effects of the burst housing bubble, lie in low productivity growth. Structural change to reinforce high added value activities and the use of knowledge, technology and innovation in the business sector was recommended (FBBVA-IVIE, 2011).
- ERDF programme implementation was significantly concentrated in RTDI and supporting companies tackling the key needs of the Spanish economy. Some evidence on the effectiveness of certain ERDF co-financed measures to boost the entrepreneurial RTDI has been presented referring to: 1) Loans and reimbursable grants, (CDTI; 2009), and 2) the effect of TCs and STPs: a) to promote entrepreneurial innovation and significantly increase the probability of SMEs becoming innovative, known as the "park effect" (Barge-Gil, Vasquez-Urriago and Modrego-Rico, 2011), and b) to foster R&D expenditure and employment productivity (Infyde ID, 2011).
- The Madrid-Valencia high-speed line as an efficient transport technology estimated to replace 25% of journeys by car, 5% of bus journeys and 55% of flights (Ministry of Public Works, 2011).
- The interventions in water infrastructures have had a significant impact for the environment and in terms of compliance with EU regulations. The diagnosis of the situation and needs in terms of waste water and water treatment recently carried out by the Spanish Evaluation Agency at the start of the programming period (AEVAL, 2009) revealed that there are still deficiencies in Spain due to causes that include obsolete treatment systems, the increasing population and changes in land use, sizing and treatment system technology.

Developments since the 2012 report

Some statistical data (INE) shows that both the number of RTD personnel employed in Spain and the number of patent applications have risen rapidly in recent years. The performance of the science and technology system in Spain has improved reaching an increased level of competitiveness on the European ground field, as can be concluded from the initial results of Spanish projects in the Seventh Framework Programme (FP) (CDTI, 2013)³⁷ which indicate important increases both in funding (from 6.5% for the VI FP to 8.3% in VII FP) and in number of projects (from 6.3% to 10.4% between VI and VII FP). Some encouraging features stem from the development of private R&D, which contributes 45% of the returns. Spanish enterprises obtained a proportion of projects resulting in a return of 33%. Moreover, TCs which in Spain, are usually organized as non-profit organizations, received a return of 12%³⁸.

The CDTI published an analysis of the results and forecasts, regarding the impact of the projects completed in 2011, (CDTI, 2012a)³⁹ 45% of which were financed through grants by the TF NOP. The analysis was based on the results from an online questionnaire completed by the companies when presenting their case for the final payment of the project. The results revealed the following⁴⁰: 1) One third of the SMEs did not have any previous experience with investing in RTDI, but 89% of the companies stated that they intended to make further investments into this area. 2) Important economic effects shown by an increase in sales of 4.7% in the first year of operations and 6.5% in the second, a high proportion of which was in exports (44% in the first year and 50% in the second); 3) A modest effect on the creation of direct employment (+ 0.5% of total employment in sample companies) with a stronger indirect effect (+2.7 in other companies) caused by the pull induced by increased demand in supported companies.

In the series *Cuadernos de Innovación*, the CDTI (2012b)⁴¹ published an evaluation of the projects from the CENIT programme (Strategic National Consortiums in Technical Research), aimed at promoting collaboration between the public and private sectors in research and development. The programme, included in the INGENIO programme of the Plan for Improvements in the Spanish Economy, created a cooperation network in Spain that promoted new cooperative research and development projects in a higher proportion than in individual initiatives, and which also promoted international cooperation: 39% of the leaders and 15% of the partners declared that their involvement in the FP has increased thanks to CENIT. The study does not include specific evidence beyond declarations of project leaders and partners.

³⁷ CDTI (2013), "Resultados provisionales de la participación española en el VII Programa Marco de I+D de la Unión Europea (2007-2012)", Perspectiva CDTI, no. 41, January 2013, www.cdti.es

³⁸ The contribution from the other most relevant sectors are 36% from universities (22.1%) and public research centres (14.0%), with the rest corresponding to research associations (9.5%), associations (4.3%) and public authorities (4.3%).

³⁹ CDTI (2012a), "Análisis de resultados y expectativas de impacto de los proyectos CDTI finalizados en 2011", Cuadernos CDTI de Innovación Tecnológica, no. 7, July 2012.

⁴⁰ The relative value of the estimates for the projects certified in the annual operations plan of the CDTI has been calculated based on the employment and sales figures from the companies included in the sample, which means that the average values could be slightly different.

⁴¹ CDTI (2012b), Principales resultados de la evaluación de la 2ª y 3ª convocatorias (2007) del Programa CENIT, Cuadernos CDTI de Innovación Tecnológica, no. 8, December 2012.

The argument about the sizing, cost effectiveness and coordination of the different infrastructures and types of transportation has once again come to the fore⁴². The economic crisis has led to a serious reduction in demand for different types of transport, from motorways (especially toll motorways) and airports through to high-speed rail networks, which has increased the rivalry between them and difficulties in terms of their financial sustainability when the volume effect and structural costs are significant. During 2012, the number of travellers using the high speed AVE and long distance rail network decreased significantly (3.9% since 2008), and the country's rail operator RENFE reacted with a commercial promotion policy for AVE tickets (reducing prices by 11%) that increased the number of travellers by 13.9%⁴³ and made it possible to return to train occupation levels of close to 75%⁴⁴. The number of air travellers also fell significantly (12.5% in domestic flights) leading to problems for the airports, further aggravated by the crisis affecting the airline Iberia in its main operating airports. At the time of writing this report, it would seem that the crisis has reached rock bottom, although we will need to wait for a few years to have more specific details on the development of traffic demand.

Finally, EU funding and the effects of the intervention of ERDF programmes are clearly stronger in the Convergence regions than in the Competitiveness regions (see the section on achievements for the distribution of the main programme outcomes). The needs of the less developed regions in terms of RTDI, support for enterprise innovation and ICTs, as well as in transport, environmental and social infrastructures and local and urban development, have also been dealt with as priority issues. However, with the exception of the evidence indicated above, the lack of specific evaluations makes it difficult to evaluate to which extent the achievements discussed in this report have contributed to a greater capacity to face the increased competition resulting from globalisation and the long-term challenges of demographic trends and climate change.

The absence of evaluations makes it difficult to judge the performance of various programmes and policy measures; however comments based on the opinion of the authors can be made. The RTDI policy area seems to have performed relatively well. RTD projects for Universities and research centres gave impetus to the Spanish System of Science and Technology. Knowledge and technology transfer measures appear to have facilitated the spill over of business innovation through cooperative projects between companies, research and technological centres and scientific and technological parks. However, a non-negligible proportion of

⁴² One quite frequent opinion was that the high fixed costs of many infrastructures was not a serious problem due to their long useful life, and although it was not ideal to do without the opportunity costs of the investments, it was considered that in general it provided a reasonable balance of benefits in a country that has traditionally suffered from the effects of isolation such as Spain (peripheral location, long distances and low population density), even if they were not profitable attributing all of the fixed costs. The question of costs and the demand for high speed rail networks is explored in Campos Mendez, J., de Rus Mendoza, G. and Barrón de Angoiti, I., *"El transporte ferroviario de alta velocidad: Una visión económica"*, Documentos de Trabajo, no. 3, Fundación BBVA, 2009.

⁴³ The increase is between the months of February-April 2012 and 2013. Ministry of Public Works, (2013) press release dated 11th June 2013 (www.fomento.gob.es). The fall in high speed line and long distance trains correspond to the difference between the annual maximum in 2008 and 2012 (El País Economía, 10 March 2012, <http://economia.elpais.com>), while the figure for domestic flights corresponds to 2011-2012 (ABC Economía, 9 February 2013, <http://www.abc.es/economia>)

technological centres, as well as some scientific and technological parks was driven from the supply side of public policies with little attention given to their future demand conditions. Consequently, some of these have encountered difficulties due to the dramatic change in the country's economic situation. Finally, business RTDI projects seemed to have stimulated business innovation to a reasonable extent. However, a wide range of regional features remains impossible to assess.

Direct investment aid for business projects fostered investment and encouraged the creation and modernisation of enterprises and benefited start-ups and a large number of companies (the vast majority of them SMEs), whilst regional incentives for large investment projects lost momentum and underperformed due to the crisis. Overall, this area deserves a positive assessment, but some negative features may be observed such as a relatively high proportion of very small grants scattered over a large number of projects in SMEs.

In the area of transport infrastructures, investments continue to fill the remaining gaps and high-speed train lines received a significant enhancement, but there are doubts regarding the efficient planning and comparative profitability of these. In the environment policy area, outcomes and achievements suggest a positive assessment, though some problems have arisen concerning excess capacity in desalination plants and the suitable management of waste water treatment plants. In the policy area of territorial development, performance appears to be positive, but realisations have been delayed and are still far from the targets in the urban area where Spain normally disposes of widespread experience and good track records.

4. Evaluations and good practice in evaluation

Main points from the previous country report:

- The current programming period in Spain was initiated with the aim of vastly improving strategic monitoring and on-going evaluation. The evaluation strategy was based on improvements in the monitoring and indicators systems in order to provide timely information on implementation problems and targets achievement.
- Unfortunately, the initial efforts were not as successful as planned. It took almost three years for the information system used to manage the indicators to become operational. The management and monitoring of the programme using the indicators was not effective until the year 2011 and lost most of its efficacy.
- Today, the system is working relatively well and provides detailed information on most of the indicators by policy areas and priority themes, although very few evaluations of the ERDF programmes and some ERDF co-financed measures were carried out in Spain. These were mainly focused on strategic and thematic evaluations and only a midterm evaluation was launched for the ROP of Catalonia. However, an important operational evaluation was carried out in 2011 to address the adverse impact of the current economic and financial crisis on the implementation of ERDF programmes (Operational Evaluation for reprogramming the ERDF ROPs and the TF NOP).
- Moreover, the two strategic evaluations on environment and RTDI issues that should have been released in 2011 were not published in December 2012.

Developments since the 2012 report

Since the 2012 report, a number of changes have been made in the strategy for evaluating the effects of interventions co-financed by the ERDF and Cohesion Fund. The evaluation of the impact of implemented measures was strengthened by prioritising counterfactual analysis and by reinforcing the capabilities of the MA (*DG Fondos Comunitarios, Ministerio de Hacienda y Administraciones Públicas*). The latter was achieved by collaborating with experts from specialised bodies such as the Spanish Agency for Evaluation (for delivering expertise and information in environmental evaluation), the Spanish Institute for Fiscal Studies (IEF) (for delivering econometrics expertise in panel data analysis) and the INE (for collecting consistent data in the Spanish statistic system to integrate and validate data from FONDOS 2007 and to build control groups with data from populations unassisted by ERDF programmes).

The experiments set underway in the field of evaluating impact have involved work to plan and prepare the relevant statistical information for the thematic evaluations of the environment and RTDI in this period, and this will allow them to be extended to other themes and spheres in the evaluations for the forthcoming programming period. One fundamental aspect for impact evaluations is to plan in advance the questions used in the evaluation and the corresponding data gathering systems. The lessons learned have shown the importance of having extensive and reliable statistical information for two essential functions: firstly, to contrast the reliability and coherence of the indicators of the FONDOS system with the statistics of the country, and secondly, to obtain the control groups of companies, organisations and activities that were not dealt with by means of measures co-funded with the ERDF.

The evaluations and studies that have been carried out in Spain to assess Cohesion Policy performance since the 2011 report was prepared are the second Strategic Evaluation of the NSRF, both of the thematic evaluations on the environment (focusing on water management) and RTDI that were due for 2012, and finally a set of operational evaluations for reprogramming most of the Spanish ERDF OPs, which were recently submitted to their corresponding Monitoring Committees.

The Table below shows the main features of these evaluations, according to the information delivered at the Committee for Strategic Monitoring and Evaluation (*Comité de seguimiento estratégico y evaluación continua*) held in Madrid this July (16/2013).

Table 6 – Evaluations carried out in 2012

Title and date of completion	Policy area and scope (*)	Main objectives and focus (*)	Main findings	Method used (*)	Full reference or link to publication
Strategic Monitoring Report of the NSRF 2007-2013. January 2013	Cod: 9 All of the areas within the framework of the OPs of the ERDF and ESF	Cod: 1 assess the arrangements and procedures for managing or administering programmes;	The strategy and policy lines in the different areas were still relevant; the financial execution (as of 2012), as well as outputs indicators were considered acceptable. However, in the areas related to business investments, goals should be revised/scaled down and interventions re-programmed in order to deal with the dramatic change in the socio-economic situation in Spain over the next years	Cod: 4 Other Qualitative	http://www.dgfc.sgpg.meh.es/sitios/dgfc/es-ES/ipr/fcp0713/e/ie/se/Documents/Informe_2012.pdf
Thematic Evaluation on Environment	Cod: 5 Environment. Water supply and waste water management	Cod: 3. Assess the effects of programmes in terms of the results achieved. Determine if the investments co-funded with ERDF in waste water purification and water supply management significantly influenced the quality of waste waters exiting the collection and purification system and the quality of water supply management. In the latter case, the reduction in losses of water from the system was used as an impact variable	Statistical tests are still underway to improve the robustness of the results, although a positive effect has been seen in investments in purification through the cleanliness of waste waters. Provisional results, other than counterfactual analysis, are not yet available. The difference between the amount of polluted products in the collectors and the purified water is significantly higher in districts that have made investments in water purification.	Cod: 1 Counterfactual: Propensity Score Matching for waste water purification. Dif-in- Dif for water supply management.	Forthcoming. Information presented at the Committee for Strategic Monitoring and Evaluation, Madrid meeting 16 July 2013. Presentations can be downloaded at http://www.dgfc.sepg.minhap.gob.es/sitios/dgfc/es-ES/ipr/fcp0713/e/cse/Paginas/inicio.aspx
Operational Evaluations for Reprogramming. Presented at the Monitoring Committees in 2012	A wide range of areas	Cod: 1. Assess the arrangements and reprogramming proposals in the NOP of Knowledge Based Economy, Cohesion Fund and the ROP of Aragón, Balearic Islands, Region of Valencia, Canary Islands, Cantabria, Castile-La Mancha, Castile-León, Catalonia, Extremadura, Galicia, La Rioja, Madrid and the Basque Country	Readjustments of expenditure across priority themes (mostly within a separate axis) and increases in ERDF co-financing rates have been made in order to facilitate financial absorption. Some targets have been readjusted through out the course of re-programming (number of beneficiary companies, induced investment, job creation). In some cases, the objectives have been adjusted to correct forecasting errors.	Cod: 3, Other quantitative	Monitoring Committees of ERDF OPs during June/July 2012

Note: (*) Legend:

Policy area and scope: 1. RTDI; 2. Enterprise support and ICT; 3. Human Resources (ERDF only); 4. Transport; 5. Environment; 6. Energy; 7. Territorial development (urban areas, tourism, rural development, cultural heritage, health, public security, local development); 8. Capacity and institution building; 9. Multi-area (e.g. evaluations of programmes, mid-term evaluations); 10. Transversal aspects (e.g. gender or equal opportunities, sustainable development, employment)

Main objective and focus: 1. assess the arrangements and procedures for managing or administering programmes; 2. support monitoring, or check the progress made in implementing programmes, such as many mid-term evaluations; 3. assess the outcome or effects of programmes in terms of the results achieved and their contribution to attaining socio-economic policy objectives

Method used: 1. Counterfactual; 2. Cost-benefit analysis; 3. Other quantitative; 4. Qualitative.

The main features of these evaluations are commented in the subsequent paragraphs, but the analysis is largely limited to methodological aspects emerging from the progress reports presented at the last Committee for strategic Monitoring and Evaluation meeting in Madrid on 16 July 2013, as the thematic evaluations on water and RTDI have yet to be published.

The Strategic Monitoring Report of the NSRF 2007-2013 covers the whole set of ERDF, Cohesion Fund and ESF in the current programming period until the year 2011. The scope of the report covers changes in the socio-economic situation associated with the current crisis and their effect on the evolution of socio-economic and territorial differences. It analyses the level of compliance with community directives and the Lisbon “earmarking” which is continued to be adequate in Spain (initial commitments of 69% in terms of Convergence and Phasing-out, and 75% in terms of Competitiveness and Phasing-in), and evolving in line with the execution of the different programmes. The main emphasis of the report is the negative impact that the worst crisis in recent history has had on the Spanish economy and the effect that it has had on the objectives and strategy defined in the NSRF 2007-2013 as well as on the OPs which were designed in a period of growth in a radically different socio-economic context. It also analyses the financial execution and evolution of the strategic indicators of the NSRF until 2011. However, the report inevitably focuses on the difficulties in execution and the “need to update the strategy of the OPs” which calls for “redressing the balance and refocusing the priority of the initially foreseen objectives, such as supporting the creation of employment before improving its quality”.

In terms of progress with financial execution, the expenditure made by 2011 represented a small proportion (37.8%) of the total amount programmed. As a result of the economic crisis, there was a proliferation of actions hindered by difficulties in their execution, both due to a reduction in private investment, and because of budget adjustments in all of Spain’s public authorities. There was a widespread need to readjust the goals and re-programme the planned interventions. The main difficulties included those of co-funding and the grant regimes for companies (especially R&D&I and SMEs) to absorb the allocated resources. It can be concluded that the strategy designed in 2007 is still valid, although it has been necessary to re-direct the programmes in order to adapt their lines of intervention and the objectives sought to the adverse conditioning factors of the current depression and financial crisis.

The thematic evaluation of RTDI is still in progress. In the beginning it focused on the TF NOP in the traditional way of midterm evaluations. However, when the focus was shifted to the evaluation impact and counterfactual methodologies this proved to be a difficult task. Consequently, most of the RTDI relevant measures in the NSRF were taken into account, due to the fact that whilst the focus in TF NOP does not permit the taking into account of similar RTDI measures co-funded by the ERDF in the ROPs, the wide variety of operations included in the TF NOP does not allow a suitable approach for impact evaluations⁴⁵. For this reason, the thematic evaluation of the effect of the RTDI measures on enterprises was re-directed towards a study of their impact on the balance sheets of enterprises in the whole country.

With regard to the *thematic evaluation of the environment*, this focused on water management issues, which are very important in ERDF programmes as a whole and for the Cohesion Fund in

⁴⁵ The TF NOP includes a large number of operations – more than 10,000 – with widely varying sizes, and an extensive range of actions, without indicators suitable for quantification at an aggregated level.

Spain, and which basically focus on water supply management and the collection and purification of waste waters. Special emphasis was given to evaluating the impact of measures co-funded with the ERDF on water supply management and on the quality of purified waste water. The database used for impact studies with a counterfactual methodology was created by combining information on projects, investments and beneficiaries of the ERDF and Cohesion Fund in FONDOS 2007 with information from the INE⁴⁶ in order to obtain the control groups and segments of the sample of entities or municipal districts without investments in environmental water infrastructures. In order to avoid “false controls” (entities incorrectly included in the control group or “without treatment”), information was also used from the environmental authorities (Ministry for Agriculture and Environment, MAGRAMA) in order to identify municipal districts with investments in water supplies and purification that were not included in the ERDF programmes.

The progress report on this evaluation was entirely focused on how to carry on impact evaluations by means of counterfactual methodologies. From this perspective, as drinking water quality in Spain is not below the threshold levels of sanitary quality and morbidity rates, the main question in the impact evaluation focused on minimising losses in the supply management system. The impact evaluation question was the existence of a significant impact of the investments on the reduction in water losses from the system. The variables used for the econometric analysis reflect the ratio of the water distributed to the water with registered use: the proportion of water not registered in relation to the amount distributed, and the water distributed in proportion to the population. The methodology used for the evaluation was Differences-in-Differences instrumented with panel data.

The study of the impact of the purification systems focused on the quality of waste water exiting the purification plant. Information from the INE was used on the quality of water entering and leaving the plant⁴⁷. The method used was Propensity Score Matching based on the differences between the data for 2007 and 2010.

The few evaluations which have been carried out in the present programming period have shed some light on a limited set of issues and policy areas regarding the results of Cohesion policy interventions and the effects on policy objectives.

In the policy area of environmental water infrastructures, the results of the effect of investments in water supply systems are still pending completion. However, the results so far obtained indicate that there has been a positive and significant effect of the investments made in the purification of waste water. The results do not show any significant differences in terms of the purified water between the municipal districts that have made investments in this area, although a difference between the pollution load of the waste water collected and the purified water leaving the plants – the intensity of the cleaning or purification process – is significantly higher in districts that have made investments in purification.

⁴⁶ The source of information was the file from the “Questionnaire on Water Supply and Treatment” from the National Institute of Statistics.

⁴⁷ A quantitative variable was used (flow of treated water in m³/day) and variables referring to the quality of the effluents (biochemical oxygen demand and chemical oxygen demand, solids in suspension total phosphorus and nitrogen in water and heavy metals in the water).

Regarding the use made of the results of the evaluations and their recommendations, it is worth noting that the results of the NSRF strategic evaluation have been taken into account for the re-programming and adjustments presented to the OPs in the monitoring committees for June-July 2012. Naturally, all of the operational evaluations for reprogramming led to shifts in expenditure and changes in targets. On-going evaluations were foreseen in the event of output indicators' low performance. However, none of these evaluations were carried out and the thematic evaluations of Environment and RTDI are considerably delayed. Consequently, assessments and opinions from independent experts could not be used to reassess and redefine policy measures in operational reprogramming.

Both thematic evaluations on the environment and RTDI are still underway, even though the main results of the former and the progress status of both have been reported to the Committee for Strategic Monitoring and Evaluation (16/July/2013). The thematic evaluation for R&D&I has been reconverted into a more extensive impact study⁴⁸ on the impact of the community funds for R&D&I on the profits and other results of Spanish companies during the period 2003-2010, which is still being carried out using the data from the information systems of FONDOS 2000 and FONDOS 2007 combined with data from the Spanish Foundation for Science and Technology (FECYT) and the panel of innovative enterprises (PITEC produced by the INE for the Questionnaire on Innovation in Enterprises 2003- 2011).

Unfortunately the role of evaluation in the current programming period has been extremely limited, practically in the field of NSRF strategic evaluations and in operational reprogramming. During the entire programming period virtually no evaluations were carried out in Spain, resulting in the absence of independent experts' informed assessments which could have been used to debate the operation of ERDF programmes' policy measures.

With regard to the plans for carrying out evaluations throughout the remainder of the programming period, the guidelines for producing a new evaluation plan were recently presented at the Committee for Strategic Monitoring and Evaluation. Procedures have been set up for elaborating an indicative list of evaluations with their respective time schedule. However, precise decisions are still pending.

The main policy areas or issues which have not been covered by the evaluations carried out or commissioned so far are Transport (not sufficiently covered), Energy, Territorial development (urban areas, tourism, rural development, cultural heritage, health, public security, local development) and Capacity and institution building, as well as multi-area evaluations of programmes, mainly due to a general lack of mid-term evaluations in the current programming period.

The national evaluation strategy envisaged strategic evaluations of the NSRF, multi-programme thematic evaluations (equal opportunities, Environment and RTDI), as well as operational evaluations linked to re-programming. Evaluations were foreseen in the case of output indicators' low performance but these evaluations were not carried out in practice. Moreover, the thematic evaluations of Environment and RTDI have been delayed considerably.

⁴⁸ "Evaluation of the impact of community funds on R&D&I on the balance sheets and other accountancy records of Spanish enterprises. Period 2003-2010. Ministry of Finance and Public Authorities. Spain (2013) (still in the process of elaboration)

The main example of good practice in evaluation, following the publication of the 2012 report, is the evaluation of the transversal environmental objective which focused on unravelling the impact of water infrastructures on the efficiency of water supply management and purification efforts in waste water treatments. This was an example of impact evaluation, using counterfactual analysis, whereby just a progress report on the counterfactual methodology and its provisional results is available at the present time. Consequently, it is not possible to provide an assessment grid for this good practice.

Despite the availability of good technical capabilities and the effort made to improve the indicators' monitoring system in Spain, the evaluation capacity has been limited during the 2007-2013 period. Only the strategic evaluations of the NSRF and the thematic evaluation on equal opportunities were completed in time. The operational evaluation (conducted in 2011) aimed at designing measures to cope with the economic crisis in ERDF programmes; it was extremely helpful and contributed significantly to the mitigation of the impact of the recession on ERDF implementation.

Currently at the end of the period, there is a lack of informed opinions from independent experts, making it difficult to assess the achievements and the effectiveness and efficiency of the measures taken. With the exception of the progress report on the mentioned counterfactual evaluations, the main part of the thematic evaluations of RTDI and environment has not been published yet. The information provided by the midterm evaluation of the Catalonia ROP is the only sound available assessment of the ERDF implementation in the policy areas of knowledge economy, innovation and business development to date. This is an unfortunate weakness which must be stressed.

The evaluation activity in Spain could be improved by adopting the following recommendations:

- First, midterm evaluations should be mandatory;
- Second, the role of independent external evaluators should be greatly expanded;
- Finally, the results of evaluations should be widely disseminated to stimulate discussion on the effectiveness and efficiency of the various policy measures.

5. Further Remarks - New challenges for policy

Main points from the previous country report:

- The issue of the verification procedures and expenditure certifications still remains largely unmet. Both the managers of the programmes and the private stakeholders involved in the projects complained about the workload and have expressed concern for the difficulties, the slowness of procedures and the excess of inspections and petitions of documentation.
- Full implementation of the programmes is still a challenge; however the actions taken by reprogramming and increasing ERDF co-financing rates have brought an important relief and must be continued to improve progress.
- Opening participation to the private sector, entrepreneurial and/or non-profit organizations (associations, foundations, etc.) would revitalise and further tailor the offered support measures to the real needs of the customers.

- Measures devoted to increasing business technology and innovation projects in Convergence regions are currently mainly led by the CDTI but these should be taken over by regional governments and private partners as they are better acquainted with entrepreneurial needs in Convergence regions and are also in close contact with their markets' innovative segments.

Regarding the main changes that have occurred in 2012, some progress has been achieved in opening participation to the private (eligible private investments can be considered as matching funds in the TF and FEIs). At this point of the program, this will have little impact but it is certainly of significance for the next period. Similarly, although more effective to promote programmes' implementation, a policy reorientation towards financial instruments was undertaken in the past year and also adopted as a clear choice for the next period 2014-2020.

The crucial importance of RTDI in correcting the competitiveness problems affecting the Spanish economy and the evidence presented on the results of the interventions leads to identifying the promotion of research and development as the most important priority for the coming years. RTDI in business plays a decisive role for its market orientation and impact on the competitiveness of enterprises.

Financial instruments are effective in Competitiveness and Convergence areas, but it is also necessary to use a certain amount of grant incentives (or mixed instruments) in order to overcome or mitigate barriers to innovation in high risk and cooperative and network projects in the least developed areas. The example of the adaptation of the ERDF-INTERCONNECTA by the CDTI is very interesting, and it will be of great help to carry out an in depth analysis of its results, especially if we consider that the calls were issued at the worst moment of the economic crisis in Spain. The public science and technology system and the regional innovation systems should not be neglected, but a stronger focus should be given to results in the objectives of the projects, and in particular shifting the emphasis from individual researchers to research groups.

It is fundamental to make ERDF interventions more flexible, with a higher presence of private initiatives from enterprises and non-profit making organisations, permitting a greater ability to adapt to the needs and potentials of the market.

References

INE, Press release 795, 27 August 2013.

INE, Quarterly National Accounting of Spain, 28th of February 2013 and INE, Gross Domestic Product by Region. Year 2012 (Spanish Regional Accounts. Base 2008), 21 March 2013.

INE, Economically Active Population Survey (EAPS), 4th Quarter 2012, 24 January 2013.

CDTI (2013), "Resultados provisionales de la participación española en el VII Programa Marco de I+D de la Unión Europea (2007-2012)", Perspectiva CDTI, no. 41, January 2013. https://www.cdti.es/recursos/publicaciones/archivos/47329_1611612013133338.pdf

CDTI (2012a), "Análisis de resultados y expectativas de impacto de los proyectos CDTI finalizados en 2011", Cuadernos CDTI de Innovación Tecnológica, no. 7, July 2012. http://www.cdti.es/recursos/publicaciones/archivos/30667_2592592012104021.pdf

CDTI (2012b), "Principales resultados de la evaluación de la 2ª y 3ª convocatorias (2007) del Programa CENIT", Cuadernos CDTI de Innovación Tecnológica, no. 8, December 2012. https://www.cdti.es/recursos/publicaciones/archivos/32939_1941942013115015.pdf

Campos Mendez, J., de Rus Mendoza, G. and Barrón de Angoití, I. (2009) "El transporte ferroviario de alta velocidad: Una visión económica", Documentos de Trabajo, 3, Fundación BBVA.

National Statistics Institute (INE, 2009), Encuesta sobre Innovación en las Empresas, Madrid, 2010.

Ministry of Public Works, (2013) press release dated 11th June 2013 (www.fomento.gob.es)

Ministry of Finance and Public Authorities, Spain (2013) "Evaluation of the impact of community funds on R&D&I on the balance sheets and other accountancy records of Spanish enterprises: Period 2003-2010".

Sala-Garrido, R., Hernández-Sancho, F., Molinos-Senante, M. and Mocholí-Arce, M. (2011). "Estacionalidad en el proceso de depuración de aguas residuales: Impacto sobre la eficiencia y los costes de operación", Rect@: Revista Electrónica de Comunicaciones y Trabajos de ASEPUMA, 12, pp. 21-31. <http://dialnet.unirioja.es/descarga/articulo/4214058.pdf>

SCImago, (2007) SJR. SCImago Journal & Country Rank. Retrieved September 26, 2013, from <http://www.scimagojr.com/countrysearch.php?country=ES>

Interviews

NAME	POSITION (CURRENT AND FORMER ROLES)	PLACE	DATE	FORM
María Gorriti Gutiérrez- Cortines	SG Adjunta de la S.G. Programación Territorial y Evaluación de Programas Comunit. del Mto. Economía y Hacienda	Madrid	14-06-13	Face-to-face
María Muñoz	Evaluation Service, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	14-06-13	Face-to-face
Juan Conde	Jefe Servicio Evaluación de la D.G. Planificación Económica y Fondos Comunitarios, Xunta de Galicia	Santiago	18-06-13	Face-to-face
Pilar Morgade Saavedra	Deputy director for Business Innovation of Galician Innovation Agency of the Galician Government	Santiago	18-06-13	Face-to-face
Carlos Fernández-Palacios	Coordinador de la Agencia IDEA	Seville	05-07-13	Face-to-face
Felipe Vivern	SDG FEDER PO Fondo Tecnológico	Madrid	16-07-13	Face-to-face
Jorge García Reig	Deputy DG for Evaluation, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	16-07-13	Face-to-face
María Gorriti Gutiérrez- Cortines	SG Adjunta de la S.G. Programación Territorial y Evaluación de Programas Comunit. del Mto. Economía y Hacienda	Madrid	16-07-13	Face-to-face
María Muñoz	Evaluation Service, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	16-07-13	Face-to-face
Alberto Fernández Ecker	Technical adviser technological centers, SDG Tránsito de Tecnología, Ministerio de Economía y Competitividad, Spanish government	Madrid	17-07-13	Face-to-face
Bárbara Fernández Revuelta	SDG adjunta DG de colaboración público-privada, Ministerio de Economía y Competitividad, Spanish government	Madrid	17-07-13	Face-to-face
Maria angeles Ferre	SDG de colaboración público-privada, Ministerio de Economía y Competitividad, Spanish government	Madrid	17-07-13	Face-to-face
Maria Lara	Head of area, SDG Tránsito de Tecnología, Ministerio de Economía y Competitividad, Spanish government	Madrid	17-07-13	Face-to-face
Pedro Vial	Technical adviser area FEDER, SDG Tránsito de Tecnología, Ministerio de Economía y Competitividad, Spanish government	Madrid	17-07-13	Face-to-face
Anatolio Alonso	Deputy DG for ERDF, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	29-07-13	Face-to-face
Jose María Ocon	Responsable FEDER, DG Investigación, Ministerio de Economía y Competitividad, Spanish government	Madrid	29-07-13	Face-to-face
Marina Villegas Gracia	SDG Proyectos de investigación, DG Investigación, Ministerio de Economía y Competitividad, Spanish government	Madrid	29-07-13	Face-to-face
Adolfina Martínez Girado	Jefa de Servicio de Planificación de la D.G. Fondos Europeos y Planificación, Junta de Andalucía	Seville	04-09-13	Face-to-face
Ricardo Enrique Piña Martínez	Jefe de Servicio de Fondos FEDER de la D.G. Fondos Europeos y Planificación, Junta de Andalucía	Seville	04-09-13	Face-to-face
Pilar Morgade Saavedra	Deputy director for Business Innovation of Galician Innovation Agency of the Galician Government	Santiago	18-06-13	Telephone
María Muñoz	Evaluation Service, DG for EU Funds, Ministry of Finance, Spanish government	Madrid	18-10-13	Telephone

Annex 1 - Evaluation grid for examples of good practice in evaluation

There are no examples of good practice in evaluation.

BASIC INFORMATION	
Country:	
Policy area: (Enterprise support, RTDI, Transport, etc.)	
Title of evaluation and full reference:	
Intervention period covered (2000-2006; 2007-2013; specific years):	
Timing of the evaluation (when it was carried out):	
Budget (if known): EUR	
Evaluator: (External evaluator, internal evaluator, EC)	
Method: (counterfactual analysis, process analysis, case study, econometric model, etc. indicate if a mix of methods)	
Main objectives and main findings:(very short description - 3-4 lines)	
Appraisal: (Why you consider the evaluation an example of good practice: - 3-4 lines)	
CHECK LIST	
Score each item listed below from 0 to 2 as follows: 0: No; 1: Yes, but not fully; 2: Yes	
Report	
Are the objectives, methods and findings of the evaluation clearly set out?	
Are the findings and recommendations clearly supported by the analysis?	
Are the methods used suitable given the objectives of the valuation and have they been well applied?	
Are the quantitative and qualitative data used reliable and suitable for the purpose of the evaluation?	
Are the potential effects of other factors (e.g. the economic situation) on the outcome fully taken into account?	
Is a serious attempt made to distinguish the effects of the intervention from these other factors?	

Annex 2 – Tables

Excel Table 1 – Regional disparities and trends

Excel Table 2 – Macro-economic developments

Excel Table 3 - Financial allocation by main policy area

Excel Table 3cbc - Financial allocation by main policy area – cross border cooperation

Excel Table 4 - Commitments by main policy area (by end-2012)

Excel Table 4cbc - Commitments by main policy area (by end-2012) – cross border cooperation

Annex Table A - Financial allocation by main policy area 2011-2012 (EUR million)

ERDF and Cohesion Fund	Convergence objective		Competitiveness and employment objective		Multi-objective		Total	
	2011	2012	2011	2012	2011	2012	2011	2012
1. Enterprise environment	3,125.9	3,077.3	2,141.9	2,164.0	3,609.2	3,601.7	8,877.0	8,842.9
1.1 RTDI and linked activities	439.1	438.1	807.7	779.8	2,085.1	2,085.1	3,331.9	3,303.0
1.2 Support for innovation in SMEs	508.5	466.7	557.1	540.4	1,206.9	1,199.4	2,272.4	2,206.6
1.3 Other investment in firms	1,867.6	1,860.1	470.2	475.9			2,337.8	2,336.0
1.4 ICT and related services	310.7	312.3	306.9	367.8	317.2	317.2	934.9	997.4
3. Transport	6,898.8	6,941.1	819.1	837.4			7,717.9	7,778.5
3.1 Road	2,123.1	2,178.4	7.2	4.7			2,130.3	2,183.1
3.2 Rail	3,611.0	3,611.0	408.0	434.4			4,019.0	4,045.4
3.3 Other	1,164.7	1,151.7	403.9	398.3			1,568.6	1,550.0
4. Environment and energy	5,504.6	5,467.4	949.3	937.0			6,453.8	6,404.3
4.1 Energy infrastructure	287.2	273.0	140.4	144.7			427.6	417.7
4.2 Environmental infrastructure	5,217.4	5,194.4	808.8	792.3			6,026.2	5,986.7
5. Territorial development	2,357.5	2,401.4	900.2	881.4	61.7	69.1	3,319.4	3,351.9
5.1 Tourism and culture	548.4	495.6	230.8	210.4			779.2	706.0
5.2 Planning and rehabilitation	870.2	878.7	284.3	285.8			1,154.4	1,164.5
5.3 Social infrastructure	939.0	1,027.1	140.3	140.3	61.7	69.1	1,140.9	1,236.5
5.4 Other			244.8	244.8			244.8	244.8
6. Technical assistance	76.5	76.2	49.0	35.2	106.7	106.7	232.3	218.2
Total Objective	17,963.4	17,963.4	4,859.5	4,855.0	3,777.5	3,777.5	26,600.4	26,595.9

Source: DG REGIO. 24th July 2013.

Annex Table B - Planned expenditure on ERDF and Cohesion Fund by main policy area 2010-2012 (EUR million)

Policy Area	Convergence objective		Competitiveness and employment objective		Multiobjective		Total	
	2010	2012	2010	2012	2010	2012	2010	2012
1. Enterprise Support and RTDI	4,554.1	3,844.1	3,549.1	3,510.0	5,282.8	4,718.7	13,386.0	12,072.8
1.1. RTDI and linked activities	561.0	546.2	1,489.3	1,427.4	2,660.3	2,718.4	4,710.6	4,692.0
1.2. Innovation support for SMEs	681.3	577.8	838.2	803.3	2,169.3	1,603.7	3,688.7	2,984.8
1.3. Other investment in firms	2,959.7	2,328.8	742.8	670.9	0.0	0.0	3,702.4	2,999.6
1.4. ICT and related services	352.1	391.4	478.8	608.5	453.2	396.6	1,284.2	1,396.4
3. Transport	9,318.7	8,688.2	1,491.6	1,305.1	0.0	0.0	10,810.3	9,993.3
3.1. Rail	4,509.3	4,513.8	650.8	560.3	0.0	0.0	5,160.1	5,074.1
3.2. Road	3,214.9	2,734.9	12.9	8.8	0.0	0.0	3,227.9	2,743.7
3.3. Other transport	1,594.5	1,439.6	827.8	735.9	0.0	0.0	2,422.3	2,175.5
4. Environment and energy	7,914.4	6,824.9	1,519.2	1,288.8	0.0	0.0	9,433.6	8,113.7
4.1. Energy infrastructure	423.0	329.3	241.8	192.8	0.0	0.0	664.8	522.1
4.2. Environment and risk prevention	7,491.3	6,495.5	1,277.4	1,096.0	0.0	0.0	8,768.8	7,591.6
5. Territorial development	3,023.4	3,001.7	1,585.9	1,507.4	88.1	95.8	4,697.5	4,605.0
5.1. Tourism and culture	785.3	613.6	412.7	373.5	0.0	0.0	1,198.0	987.1
5.2. Planning and rehabilitation	1,243.1	1,101.8	481.9	459.6	0.0	0.0	1,725.0	1,561.4
5.3. Social Infrastructure	995.1	1,286.3	201.5	184.6	88.1	95.8	1,284.7	1,566.8
5.4. Other	0.0	0.0	489.7	489.7	0.0	0.0	489.7	489.7
6. Technical assistance	103.8	95.3	71.3	54.1	143.8	143.8	318.9	293.2
Total Objective	24,914.4	22,454.2	8,217.1	7,665.4	5,514.7	4,958.3	38,646.2	35,077.9

Source: Fondos 2007, DG Fondos Comunitarios, Ministerio de Hacienda y Administraciones Públicas. Date of extraction 8th July 2013 vs. 29th June 2011.

Annex Table C - ERDF Funding implemented by policy areas and objectives 2011 - 2012 (EUR million)

	Convergence objective		Competitiveness and employment objective		Multiobjective		Total	
	2011	2012	2011	2012	2011	2012	2011	2012
1. Enterprise environment	887.4	1,044.4	867.9	1,090.6	1,065.4	1,549.6	2,820.7	3,684.6
1.1 RTDI and linked activities	89.5	96.6	284.8	347.2	575.0	915.6	949.3	1,359.4
1.2 Support for innovation in SMEs	131.0	155.4	199.6	242.7	355.8	446.6	686.4	844.7
1.3 Other investment in firms	553.9	644.0	210.1	260.5	-	-	763.9	904.5
1.4 ICT and related services	113.0	148.5	173.4	240.1	134.6	187.4	421.0	576.0
3. Transport	4,704.4	5,667.2	625.1	671.2	-	-	5,329.6	6,338.4
3.1 Road	2,052.5	2,487.4	347.6	354.8	-	-	2,400.0	2,842.2
3.2 Rail	1,990.2	2,359.7	0.0	5.1	-	-	1,990.2	2,364.8
3.3 Other	661.7	820.2	277.6	311.3	-	-	939.3	1,131.5
4. Environment and energy	1,883.5	2,506.8	431.7	522.8	-	-	2,315.2	3,029.5
4.1 Energy infrastructure	85.6	90.0	29.0	29.7	-	-	114.6	119.7
4.2 Environmental infrastructure	1,797.9	2,416.7	402.7	493.1	-	-	2,200.7	2,909.8
5. Territorial development	915.5	1,154.6	416.4	549.5	32.3	43.7	1,364.1	1,747.8
5.1 Tourism and culture	184.9	224.7	100.0	123.2	-	-	284.9	347.8
5.2 Planning and rehabilitation	220.3	335.3	112.9	143.7	-	-	333.2	479.0
5.3 Social infrastructure	510.2	594.7	77.1	87.2	32.3	43.7	619.6	725.5
5.4 Other	0.0	0.0	126.4	195.4	-	-	126.4	195.4
6. Technical assistance	22.1	32.5	8.5	11.6	28.7	40.9	59.3	85.0
Total Objective	8,412.8	10,405.5	2,349.7	2,845.7	1,126.4	1,634.2	11,888.9	14,885.4

Source: FONDOS 2007, DG Fondos Comunitario, Ministerio de Hacienda y Administraciones Públicas. Date of extraction 8th July 2013 vs. 29th June 2011.

Annex Table D - Indicators in Enterprise Support and RTDI Policy Area

Indicators	KBE NOP+TF NOP				ROP Comp + Phasing-in				ROP Conv. + Phasing-out				Total			
	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR
	2011	2012	11-12	2012	2011	2012	11-12	2012	2011	2012	11-12	2012	2011	2012	11-12	2012
27	390	436	11.8	26.1	1,484	1,549	4.4	40.0	2,423	3,393	40.0	45.3	4,297	5,378	25.2	41.2
60	102	115	12.7	22.5	155	222	43.2	47.0	180	223	23.9	82.9	437	560	28.1	44.8
61	174	174	0.0	870.0	12	14	16.7	82.4	8	8	0.0	27.6	194	196	1.0	297.0
68	54,847	61,012	11.2	63.8	44,915	49,341	9.9	50.6	43,584	48,739	11.8	39.7	143,346	159,092	11.0	50.3
71	-	-	-	-	66	102	54.5	66.7	-	-	-	-	66	102	54.5	66.7
127	79,093	84,681	7.1	122.2	37,584	41,892	11.5	31.0	25,905	29,647	14.4	54.3	142,582	156,220	9.6	60.3
128	16,097	17,486	8.6	63.3	14,852	15,906	7.1	35.4	3,388	5,003	47.7	36.1	34,337	38,396	11.8	44.5
C4	17,265	19,125	10.8	80.7	9,297	11,020	18.5	61.1	4,922	7,073	43.7	85.4	31,484	37,218	18.2	74.4
C5	1,200	1,321	10.1	16.4	2,541	3,096	21.8	90.9	1,671	2,610	56.2	65.0	5,412	7,027	29.8	45.4
C7	-	-	-	-	21,208	27,225	28.4	76.4	13,319	16,809	26.2	36.2	34,527	44,034	27.5	53.7
C8	-	-	-	-	3,769	4,443	17.9	82.8	932	1,103	18.3	24.8	4,701	5,546	18.0	56.5
C9	266	570	114.3	35.3	10,377	11,206	8.0	33.3	35,741	49,858	39.5	38.0	46,384	61,634	32.9	37.0
C10	553.3	902.8	63.2	25.2	3,876.4	4,420.1	14.0	46.3	3,754.2	4,765.5	26.9	35.0	8,183.8	10,088.4	23.3	37.7
C11	380	548	44.2	199.3	1,709	2,017	18.0	48.3	7,524	4,737	37.0	51.5	9,613	7,302	24.0	53.5

Source: Fondos 2007, Date of extraction 11th July 2013 Notes: 27: Companies benefit from having, with the Environmental Management Systems ISO 14001 certificate and/or EMAS; 60: No. of centres of RTDI benefited; 61: No. of centres of RTDI created; 68: No. benefited Companies; 71: No. of cooperation projects between companies and research centres; 127: No. of persons participating in the projects; 128: No. of women participating in the projects; C4: Number of RTD projects; C5: Number of cooperation project enterprises-research institutions; C7: Number of direct investment aid projects to SMEs; C8: Number of start-ups supported; C9: Jobs created (gross, full time equivalent); C10: Investment induced (EUR million); C11: Number of information society projects.

Annex Table E – Main Indicators and target achievement rates in Transport Policy Area 2011-2012

Ind.	ERDF + Cohesion Fund				ROP Comp + Phasing-in				ROP Conv. + Phasing-out				Total			
	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR
	2011	2012	11-12	2012	2011	2012	11-12	2012	2011	2012	11-12	2012	2011	2012	11-12	2012
19	-	-	-	-	107	135	26.2	87.7	64	76	18.8	95.0	171	211	23.4	90.2
20	-	-	-	-	25	29	17.1	83.6	60	78	30.5	60.2	85	108	26.6	65.2
42	-	-	-	-	4.0	4.0	0.0	25.5	0.6	28.7	4,675.0	56.6	4.6	32.7	609.8	49.2
43	-	-	-	-	42.2	52.3	24.0	54.1	454.7	533.4	17.3	310.1	496.9	585.8	17.9	217.9
57	261.8	244.0	6.8	99.2	-	-	-	-	-	114	-	35.4	261.8	357.6	36.6	63.1
142	-	-	-	-	66.7	139.3	108.8	101.6	-	-	-	0.0	66.7	139.3	108.8	65.9
C13	4	3	25.0	75.0	2	18	800.0	128.6	121	332	174.1	60.4	127	353	177.7	62.2
C14	-	-	-	-	-	-	-	-	426.8	509	19.3	68.7	426.8	509.4	19.3	68.7
C15	-	-	-	-	-	-	-	-	150.6	186	23.8	127.2	150.6	186.4	23.8	127.2
C16	-	-	-	-	-	-	-	-	2,186.4	10,798	393.9	273.3	2,186.4	10,798.0	393.9	273.3
C18	93.6	97.1	3.8	99.1	2.6	16.7	540.8	18.7	-	-	-	0.0	96.2	113.8	18.3	44.3
C19	-	-	-	-	-	76.0	-	447.1	1.2	1.2	0.9	60.6	1.2	77.2	6,334.3	406.4

Source: Fondos 2007, Date of extraction 11th July 2013. Notes: 19: Actions carried out in airports; 20: Actions carried out in ports; 42: Kilometres of railway line built; 43: Kilometres of railway line built (AVE); 57: Length of built platform; 142: Platform double via AVE; C13: Number of transport projects; C14: kilometres of new roads; C15: kilometres of new TEN roads; C16: kilometres of reconstructed roads; C18: kilometres of TEN railroads; C19: kilometres of reconstructed railroads.

Annex Table F - Indicators in Environment and Energy Policy Area (C25 and C26 in thousands of persons)

Ind.	ERDF + Cohesion Fund				ROP Comp + Phasing-in				ROP Conv. + Phasing-out				Total			
	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR
	2011	2012	11-12	2012	2011	2012	11-12	2012	2011	2012	11-12	2012	2011	2012	11-12	2012
C23	-	-	-	-	975	971	0.4	7.0	12,835	16,856	31.3	40.5	13,810	17,827	29.1	32.2
C25	1,164.0	1,209.7	3.9	25.2	109.6	109.6	0.0	8.0	401.9	855.6	112.9	17.8	1,675.5	2,174.9	29.8	19.8
C26	1,654.9	1,625.8	1.8	37.4	132.6	160.4	21.0	11.0	787.5	1,653.0	109.9	34.4	2,575.0	3,439.2	33.6	32.4
C27	180	255	41.7	42.6	4	6	50.0	25.0	134	237	76.9	67.9	318	498	56.6	51.2
C28	-	-	-	-	1	12	1.100.0	120.0	99	155	56.6	93.4	100	167	67.0	94.9
C29	-	-	-	-	7.9	10	26.8	31.9	88.8	89	0.6	48.0	96.8	99	2.6	45.7
C31	-	-	-	-	107	104	2.8	79.4	124	162	30.6	26.6	231	266	15.2	35.9

Source: Fondos 2007, Date of extraction 11th July 2013. Notes: C23: Number of renewable energy projects; C25: Additional population served by water projects; C26: Additional population served by wastewater projects; C27: Number of waste projects; C28: Number of projects on improvement of air quality; C29: Area rehabilitated (sq. km.); C31: Number of risk prevention projects.

Annex Table G - Indicators in Territorial Development Policy Area

Ind.	ROP Comp + Phasing-in				ROP Conv. + Phasing-out				Total			
	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR	Indicator Value		% Δ	% TAR
	2011	2012	11-12	2012	2011	2012	11-12	2012	2011	2012	11-12	2012
40	97	100	3.1	24.8	326	360	10,4	65,1	423	460	8,7	48,1
59	0	8	-	19.5	1	4	300.0	1.6	1	12	1100.0	4.1
180	190	195	2.7	60.1	387	780	101.6	101.2	577	975	69.0	89.0
C34	446.3	421	5.6	78.7	1.851	2.250	21.6	32.2	2,297.3	2.671	16.3	35.5
C36	-	-	-	-	682	645	5.4	52.0	682	645	5.4	51.5
C37	-	-	-	-	148.212	144.598	2.4	50.2	148,212	144,598	2.4	37.3
C38	242	252	4.1	46.2	931	991	6.4	78.3	1,173	1,243	6.0	68.6
C39	29	40	37.9	19.5	25	35	40.0	18.4	54	75	38.9	19.0
C40	62	99	59.7	41.8	42	66	57.1	9.8	104	165	58.7	18.2
C41	24	76	216.7	52.1	69	101	46.4	35.6	93	177	90.3	41.2

Source: Fondos 2007, Date of extraction 11th July 2013. Notes: 40: Buildings object of conservation and restoration; 59: Number of projects of urban integrated development; 180: Number of projects Protection and preservation cultural heritage; C34: Number of tourism projects; C36: Number of education projects; C37: Number of projects benefiting students; C38: Number of health projects; C39: Number of projects ensuring sustainability and improving attractiveness of towns and cities; C40: Number of projects seeking to promote businesses, entrepreneurship, and new technology; C41: Number of projects offering services to promote equal opportunities and social inclusion for minorities and young people.

Annex 3 - Measures, funding and output indicators 2012

Measures, funding and output indicators 2012:

PA 1.1) RDTI and linked activities.

RTDI aid schemes:

The following measures were implemented in this area in order to promote RTDI activities all over the Spanish Economy:

• *RTD projects carried out for universities and research centres according to the National RTDI plan:*

Contents: It consists of grants to research teams and groups in universities, public bodies and research centres (public or non-profit), which contributes very effectively to foster research in the public and education system.

Implemented by: Central government through public calls, according to National RTD Plan. Moreover, there are external evaluators reporting on the projects and some of the public calls (CONSOLIDER, for example) are addressed to top research teams.

Funded by: Multiobjective regions (KBE NOP, 62.5% FIR), and delivered to Competitiveness and employment objective regions through their ROPs (40.8% FIR).

Number of projects: 4,857 projects (62.2% TAR), of which:

- 3,800 projects belong to the Multiobjective regions (KBE NOP) (61.0% TAR).
- 1,057 projects belong to Competitiveness and employment objective regions through their ROPs (66.9% TAR).

• *Actions undertaken by regional governments to encourage RDTI projects:*

Contents: It consists chiefly of grants to stimulate regional scientific and technological research. It includes funding to research groups in universities and other research centres for carrying out RDI projects, incentives to technological centres and other regional innovation agents for RDI projects. These projects are usually linked to specific regional problems and the development of strategic areas, new knowledge and technology.

Implemented by: Regional Governments.

Funded by: Convergence objective regions funded through their ROPs (17.6% FIR) and Competitiveness and employment objective regions through their ROPs (60.4% FIR).

Number of projects: 9,480 projects (98.1% TAR), of which:

- 5,934 belong to Convergence, Phasing-in and Phasing-out regions (93.8% TAR), of which 1,572 RD projects are cooperative (88.9 % TAR)
- 3,546 belong to Competitiveness regions (106.4% TAR), of which 1,341 are cooperative (121.9% TAR).

• *Biomedicine R&TD projects:*

Contents: They consist of aids for promoting RTD projects and cooperation networks in biomedical research.

Implemented by: Spanish Health Institute Carlos III (Carlos III SHI).

Funded by: Multiobjective regions through KBE NOP (0.22% of total funding, 139.8% FIR) and Competitiveness and employment objective regions (146.4% FIR) through the ROPs of Catalonia (115.4% FIR), Madrid (139.2% FIR) and Euskadi (192.4% FIR).

Number of projects: 1,339 biomedical RDT projects (87.2% TAR), of which:

- 877 RDT projects in Convergence objective regions, through KBE NOP (86.1% TAR).
- 462 RDT projects in Competitiveness and employment objective regions, through ROPs (89.2% TAR)

RTDI Infrastructures:

The following measures were implemented in this area in order to promote the RDTI activities:

• ***R&DT infrastructures and centres of competence in a specific technology:***

Contents: This measure consists of aids to purchase scientific equipment and communications networks for research. They are granted through public calls resolved on competitive basis.

Implemented by: DG for Research and National RDI Plan.

Funded by: Convergence objective regions through KBE NOP (41.8% FIR) and Competitiveness and employment objective regions through their ROPs (19.8 % FIR).

Number of projects: 982 projects (52.8% TAR), of which:

- 685 projects to Convergence objective regions, through TF NOP (50.9% TAR).
- 297 projects to Competitiveness and employment objective regions (57.9% TAR)

• ***STPs ACTEPARQ and CREA programmes:***

Contents: It consists of grants for research infrastructure, equipment and RTD projects in STPs ACTEPARQ and CREA programmes. In addition to project information provided in the 2010 AIR, there is some evidence on the effectiveness of the location in science and technology parks to encourage research and promote the commercial success of small companies.

Implemented by: DG for Technological Transfer and Business Development (MICINN).

Funded by: Multiobjective through TF NOP (64.6% FIR), which is shared by Convergence regions (71.8% FIR) and Competitiveness regions (32.8 FIR).

Number of projects: 9,570 RTD projects (394% TAR)

• ***Support to infrastructure and RTD equipment in specific technologies:***

Contents: It also consists of grants to build and buy infrastructure and RTD equipment in specific technologies.

Implemented by: Regional governments.

Funded by: The ERDF, in Convergence objective regions (18.0% FIR) and Competitiveness and employment objective regions (53.8% FIR).

Number of projects: 1,280 projects (75.5% TAR), of which:

- 1,257 belong to Competitiveness and employment objective regions (85.1% TAR).
- 23 belong to Convergence objective regions (10.6% TAR).

Benefited companies: Moreover, 900 companies were benefited from RTDI infrastructures projects.

Other instruments:

• ***Investment in firms directly linked to research and innovation:***

Contents: It consists of investments in companies whose main activity is related to research and innovation for promoting this kind of activities.

Implemented by: Regional and local governments.

Funded by: The ERDF through ROPs (32.9% FIR) of which it addressed Convergence objective regions (31.8% FIR) and in and Competitiveness and employment objective regions (33.6% FIR).

Number of projects: 4,461 projects by regional governments (68.6% TAR), of which:

- 478 belong to Convergence objective regions (70.9% TAR).
- 3,983 belong to Competitiveness and employment regions (68.3% TAR)

Benefited companies: 627 firms (85.5% TAR) have been reached by these measures in Convergence objective regions, whereas 2,493 companies (70.0% TAR) were benefited by measures in Competitiveness and employment objective regions.

PA 1.2) Innovation support for SMEs.

Innovation aids schemes:

• *Technology transfer and cooperation network measures:*

Contents: Measures to promote research and business innovation. The projects are mostly cooperative between companies and CT's.

Implemented by: Regional governments.

Funded by: The ERDF through ROPs (36.8% FIR), of which it addressed Convergence objective regions (29.7% FIR) and Competitiveness and employment objective regions (39.1% FIR).

Number of projects: 853 projects (83.6% of target), of which:

- 761 RTDI projects belong to Convergence objective regions (85.8% TAR).
- 92 RTDI projects belong to Competitiveness and employment objective regions (68.3% TAR).

Benefited companies: These measures in the ROPs of Competitiveness and employment objective regions have an important impact in terms of benefited companies, 1,243 (109.0 % TAR), whereas only 350 companies were benefited in Convergence objective regions (99.7%).

Number of participants: It is relatively low in both objectives: 1,212 people (42.0% TAR):

- 389 people belong to ROPs of Convergence objective regions (21.6% TAR).
- 823 belong to ROPs of Competitiveness and employment objective regions (75.6% TAR).

• *Measures implemented by development agencies and regional governments to stimulate RTDI projects in SMEs:*

Contents: Implemented by: Development agencies and regional governments.

Funded by: The ERDF (38.4% FIR) through ROPs, which addresses Convergence objective regions (26.4% FIR) and Competitiveness and employment objective regions (43.3% FIR).

Number of projects: 3,899 projects (46.1% TAR), of which:

- 1,523 belong to Convergence objective regions (60.7% TAR), of which 476 are cooperative projects (45.1% TAR).
- 2,376 belong to Competitiveness regions (40.0% TAR).

Benefited companies: 2,925 firms (36.0% TAR), of which:

- 1,238 belong to Convergence objective regions (53.1.4% TAR).
- 1,687 belong to Competitiveness and employment objective regions (29.1% TAR).

Number of participants: 13,064 people (94.3% of target) in Competitiveness and employment objective regions.

• *AVANZA Program:*

Contents: This program consists of delivering RTDI assistance in ICT sector for SMEs, including aids for: Projects of industrial research, experimental development and innovation processes and organization (1), and dissemination and promotion actions (2).

Implemented by: DG of Telecommunications, MICTYC.

Funded by: The TF NOP for Convergence objective regions (129.1% FIR).

Number of projects: 679 projects in Multiobjective regions through TF NOP (81.8% TAR).

Benefited companies: 602 in Multiobjective regions through TF NOP (111.5% TAR).

Number of participants: 5,915 people (382.1% TAR).

• ***Partially reimbursable aids to companies for business RTDI projects:***

Contents: The main lines of action are: integrated business RTDI projects, projects of technological cooperation between SMEs and business technology projects. It promotes RTDI cooperative business consistent with one of the key lines of action of the TF OP: the setting up and consolidation of clusters that help to structure the Spanish Science-Technology Enterprise.

Collaborations with governments and regional agencies is envisaged as a way to facilitate the formation of business consortia project developers. However, this partnership is not working properly as the CDTI aids and business RTDI projects are not well suited to the needs of the regions of Convergence. The cause of the low implementation in Convergence regions lies to a great extent in the mismatch of CDTI project design conditions (too ambitious).

Implemented by: Spanish Center for Industrial Technological Development (CDTI, under the auspices of the MICINN).

Funded by: Multiobjective regions through the TF NOP (52.5% FIR), which is shared by Convergence objective regions (48.6% FIR) and Competitiveness and employment objective regions (61.6% FIR)

Number of projects: 822 projects in Multiobjective regions through TF NOP (20.8% TAR).

Benefited companies: 822 projects in Multiobjective regions through TF NOP (20.8% TAR).

Number of participants: 3,792 people in Multiobjective regions through TF NOP (44.7% TAR).

Other measures for innovation and entrepreneurship:

• ***AVANZA SME programme:***

Contents: Delivered by means of partnerships with private financial institutions, provides funding for developing business projects and electronic billing tailored to the needs of SMEs, as well as loans at zero interest for investment in ICT and promoting innovation in SMEs.

Implemented by: DG for ICT, Ministry of Industry, Tourism and Commerce (MITYC).

Funded by: The ERDF funding in Convergence objective regions through ROPs (52.3% FIR) and Competitiveness and employment objective regions through ROPs (115.2%).

Benefited companies: 20,599 firms (61.7% TAR), which is shared by Convergence objective regions 11,509 (55.5% TAR) and Competitiveness and employment objective regions 9,090 (71.9% TAR).

• ***Innovation Programme for SMEs (Innoempresa):***

Contents: It consists of aids to companies for stimulating SMEs innovative technologies and practices in processes, products, organization and management.

Implemented by: The central government, DG for SMEs (MITYC) through partnerships with regional development agencies.

Funded by: The ERDF through the ROPs of Convergence objective regions (77.7% FIR) and Competitiveness and employment objective regions (101.0%).

Benefited companies: 15,621 small companies (81.8% TAR), which is shared by Convergence objective regions 9,608 (81.9% TAR) and Competitiveness and employment objective regions 6,013 (81.7% TAR).

Number of participants: 1,017 people (52.6% TAR, full time equivalent, gross), which is shared by Convergence objective regions 609 (42.5% TAR) and Competitiveness and employment objective regions 408 (81.6% TAR).

• ***Programme to promote Network Enterprises:***

Implemented by: The public enterprise RED.Es.

Funded by: The ERDF through ROPs (26.2% FIR) in Convergence objective regions (24.8% FIR) and Competitiveness and employment objective regions (28.0% FIR).

Benefited companies: 2,557 firms (7.8 % TAR), of which:

- 1,721 belong to Convergence objective regions (9.5% TAR).
- 836 belong to Competitiveness and employment objective regions (5.7 % TAR).

• ***Actions to stimulate research and innovation and entrepreneurship in the Convergence ROPs Regional Governments:***

Contents: These actions consist of: aids to firms in the areas of ICT and quality, grants to SMEs for the promotion of new business units, mentoring and programmes of activities for entrepreneurs. They also promote innovation in SMEs through assistance programmes or investing in much business project, information systems, computer firms and technology transfer. There have been carried out competitive public funding programmes for RTD and measures to stimulate knowledge and technological culture in society.

Implemented by: Regional Governments.

Funded by: The ERDF through the ROPs (33.2% FIR), shared by Convergence objective regions (39.5% FIR) and Competitiveness and employment objective regions (31.8% FIR).

Number of projects: 4,786 projects (39.0 % TAR), of which:

- 1,911 projects belong to Convergence objective regions (51.5% TAR).
- 2,875 projects belong to Competitiveness and employment objective regions (33.6% TAR), mainly in Galicia (1,794 projects).

Benefited companies: 3,998 firms (27.6% TAR), of which:

- 1,779 belong to Convergence objective regions (49.4% TAR), mainly in Galicia (1,718 companies).
- 2,219 belong to Competitiveness and employment objective regions (20.4% TAR).

Number of participants: 14,695 people (38.2 % TAR), which is shared by Convergence objective regions 12,520 (65.0% TAR) and Competitiveness and employment objective regions 2,174 (11.3% TAR).

• ***Actions to stimulate research and innovation in SMEs aimed to increase access to foreign markets:***

Implemented by: Spanish Institute of Foreign Trade (ICEX).

Funded by: The ERDF through the ROPs of Convergence objective regions (28.7% FIR) and Competitiveness and employment objective regions (211.3%).

Benefited companies: 436 firms (427.5% TAR), which is shared by Convergence objective regions 173 (384.4% TAR) and Competitiveness and employment objective regions 263 (461.4% TAR).

Innovation actions aimed at gaining foreign market share (04): 67 business innovation projects (innovation and internationalization plans).

• ***Measure to foster ICTs in SMEs:***

Contents: This measure is intended to produce leverage effects in the adoption of ICT solutions in micro and SMEs. The procedure consists of identify some technological solutions well suited to specific groups of activities, select a sample of firms to conduct pilot studies and then disseminate the results among firms in the sector by means of demonstration projects and workshops.

Implemented by: RED.Es, a public company under the auspices of the Ministry for Industry (MITYC).

Funded by: The ERDF through the TF NOP (26.9% FIR), shared by Convergence objective regions (29.6% FIR) and Competitiveness and employment objective regions (43.9% FIR).

Benefited companies: 11,197 firms in Multiobjective regions through TF NOP (18.7% TAR).

• ***Other measures for fostering services and applications for SMEs:***

Contents: These measures include a wide range of activities: e-commerce, education and training, networking, etc.

Implemented by: Regional development agencies.

Funded by: The ERDF through the Convergence objective regions ROPs (17.2% FIR).

Benefited companies: 3,998 firms (27.6% TAR), which is shared by Convergence objective regions 1,779 (49.4% TAR) and Competitiveness and employment objective regions 2,219 (20.4% TAR).

Number of participants: 14,695 people (38.2% TAR), which is shared by Convergence objective regions 12,520 (65.0% TAR) and Competitiveness and employment objective regions 2,174 (11.3% TAR).

• ***Other measures for ICT in SMEs:***

Implemented by: Regional governments.

Funded by: The ERDF through the ROPs (51.0% FIR), shared by Convergence objective regions (60.7% FIR) and Competitiveness and employment objective regions (40.3% FIR).

Number of projects: 750 projects (49.5 % TAR), of which:

- 16 belong to Convergence objective regions (5.1% TAR)
- 734 belong to Competitiveness and employment objective regions (61.2% TAR).

Benefited companies: 1,655 (16.4% TAR), of which:

- 164 belong to Convergence objective regions (82.0% TAR)
- 1,491 belong to Competitiveness and employment objective regions (15.0% TAR).

Number of participants: 14,451 people in Competitiveness and employment objective regions (45.2 % TAR).

PA 1.3) Other investments in firms.

This policy area includes actions to favour business location and investment in disadvantaged areas as well as the promotion of investments in modernization and internationalization of companies and the provision of support services to companies in the field of export and internationalization.

• ***Regional incentives:***

Contents: This is one of the most powerful and traditional measures in regional policy, which consists of aids to companies for investing in the less developed areas of the country, the more developed the region where a company is investing, the less percentage of aids receives. It is based on an inter-regional solidarity principle, and this was one of the star lines of Convergence ROPs, being assigned a large amount of ERDF funding.

Implemented by: DG of Community Funds. (Regional Incentives)

Funded by: The ERDF funding (39.4 % FIR), shared by Convergence objective regions (32.3% FIR) and Competitiveness and employment objective regions (59.6% FIR).

Number of projects: Relatively low, 280 projects (31.6% TAR), which is shared by Convergence objective regions 178 (28.0% TAR) and Competitiveness and employment objective regions 102 (40.6% TAR).

Employment: 6,290 people (33.6% TAR), which is shared by Convergence objective regions 4,207 (36.1% TAR) and Competitiveness and employment objective regions 2,083 (29.4% TAR).

Induced private investment: 2,839.76 EUR Million (39.1% TAR), which is shared by Convergence objective regions 1,851.89 EUR Million (38.6% TAR) and Competitiveness and employment objective regions 987.87 EUR Million (40.0% TAR).

• ***Measures implemented by regional governments and development agencies to encourage investment in the creation and modernization of enterprises:***

Contents: They deliver grants to fund projects of industrial research and business investment projects (aid to strategic business projects and repayable grants to support start-up). Other measures support the creation of business parks in industrial locations (supplying land and infrastructure at competitive prices to improve settlement and internationalization), initiative encourage entrepreneurship, new business creation and self-employment generation.

Implemented by: Regional governments and development agencies.

Funded by: The ERDF through the ROPs (45.3% FIR), divided into Convergence objective regions (43.4% FIR) and Competitiveness and employment objective regions (54.6% FIR).

Benefited companies: 14,663 firms (33.1% TAR), of which:

- 11,681 belong to Convergence objective regions (36.1% TAR)
- 2,982 belong to Competitiveness and employment objective regions (61.3 % TAR)

• ***Support services and aids to opening of foreign markets and internationalization implemented:***

Contents: It consists of small aids to companies for internationalization by participating in international events and operations.

Implemented by: The Spanish Institute of Foreign Trade (ICEX).

Funded by: The ERDF through the ROPs (76.8% FIR), divided into Convergence objective regions (51.6% FIR) and Competitiveness and employment objective regions (89.0% FIR).

Benefited companies: 21,695 firms (86.3% TAR), of which:

- 3,643 belong to Convergence regions (74.0% TAR).
- 18,052 belong to Competitiveness regions (89.3% TAR).

PA 1.4) ICT and related services.

• ***Measures concerning the promotion of ICT and their applications in the field of public administration, social services and citizen services:***

Contents: These measures lie in the field of services and applications for citizens (e-health, e-government, e-learning...). Important achievements have been attained in the computerization of the public administration and social services (education and health especially), as well in services for citizens (civil registers and courts of justice). There are several lines of action: Integration of ICT on educational processes (1), promote e-Health providing centres with basic infrastructure and advances healthcare facilities (2), computerization of civil registers and digitalization of handwritten books (3), Citizens Network: Promotion of ICT in society, setting up tele-centres in villages, ensuring quality and free DSL or satellite access to internet (4); administration and public services: e-administration more accessible to citizens.

Implemented by: RED.Es, a public enterprise under the auspices of MITYC.

Funded by: The ERDF through the KBE NOP (58.0% FIR).

Number of projects: 165 projects in Multiobjective regions through KBE NOP (201.2% TAR).

• ***Measures concerning the promotion of ICT and their applications in the field of public administration, social services and citizen services, implemented by regional governments:***

Contents: As the last measures discussed, these measures bring together a series of different activities, which have to be interpreted according to the qualitative characteristics of the implemented measures, all of them in the field of services and applications for citizens (e-health, e-government, e-learning, etc.).

Implemented by: Regional governments and development agencies.

Funded by: The ERDF through the ROPs (55.7% FIR), divided into Convergence objective regions (58.5% FIR) and Competitiveness and employment objective regions (55.4% FIR).

Number of projects: 1,100 projects (64.8% TAR), of which:

- 537 belong to Convergence objective regions (61.0% TAR).
- 955 belong to Competitiveness and employment objective regions (72.3% TAR).

Benefited companies: 914 firms, of which:

- 857 belong to Convergence regions, mainly in Galicia (572 companies, 110.0% TAR), Andalusia (156 companies, 39.4% TAR) and Murcia (129 companies, 215% TAR).
- 57 belong to Competitiveness ROPs, mainly in Madrid (15.3% TAR).

Number of participants: 953 people in ROPs of Convergence objective regions (39.9% TAR).

PA 3) Transports.

• **Railways:**

Contents: The most remarkable achievement is the Madrid-Valencia high-speed train which is currently in operation. A total of 533.4 km (310.1% TAR) of high-speed rail have been built in the ROPs of Convergence objective regions.

Other notable achievements are the construction of 139.3 km (101.6% TAR) of two-way platform for high-speed railways, and the construction of 244.0 km (Cohesion Fund ERDF, 99.2% TAR) of regular railway platform.

A total 113.8 km (44.3 % TAR) of TEN railways have been built. In the Cohesion Fund NOP were built 97.1 km of TEN railways (99.1% TAR) and in the ROP of Valencia were built other 16.7 km (18.7% TAR).

• **Roads:**

Contents: 509.4 km of new roads (68.7% TAR) have been built in Convergence ROPs. They are mainly distributed in Andalusia, Extremadura, Castile-La Mancha and Galicia. In these regions other 186.4 km of new TEN roads (127.2% TAR) have been constructed. In the Convergence ROPs it is also important the number of km of reformed roads (10,798 km, 273.3% TAR), most of them were carried out in Andalusia, Castile-La Mancha and Galicia.

• **Ports:**

Contents: 9,069 meters dam have been built, they are distributed between the Cohesion Fund NOP (5,391 km, 62% TAR), and the Convergence ROPs (3,678 km, 26.7% TAR). Also in the Cohesion Fund NOP; 3,776 meters of docks (60.5% TAR) have been built. Finally, in the ROPs of Convergence (including Phasing-in) 1,274,218.4 m² of port area (62.9% TAR) have been conditioned.

PA 4.2) Environment and Risk Prevention.

• **Management and distribution of water (drink water and water treatment (waste water)).**

Implemented by: Regional governments and development agencies.

Funded by: The ERDF through the ROPs, ERDF-CH and the Cohesion Fund programmes.

C25: Additional population served by distribution systems of water (drink water): 2,174,915 (19.8%)

- 1,253,936 are in Multiobjective NOPs (1,209,706 Cohesion Fund NOP)
- 920,979 are ROPs (426,251 AN ; 109,589 CL ; 162,700 CM ; 500 EX ; 221,939 GA)

C26: additional population served by water treatment systems (waste water): 3,439,223 (32.4%)

- 1,654,906 are NOPs (1,654,906 FCH)
- 1,784,012 are ROPs (948,291 AN; 17,469 AS; 160,409 CL; 88,453 EX; 564,695 GA)

10: Projects developed in areas within Natura 2000 Network: 361 (69.4%)

- 298 are of Convergence ROPs (26 AN, 3 CE, 21 CL, 28 CM, 163 EX, 55 MU)

14: Actions developed in areas outside Natura 2000 Network: 639 (133.6%)

- 629 are of Convergence ROPs (17 AN, 32 CL, 103 CM, 465 EX, 12 MU)