

Stairway to Excellence

Cohesion Policy and the Synergies with the
Research and Innovation Funds

Latvia (LV)

Facts & Figures



July 2015

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Please include the following information to reference this report:

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Introduction

Background of Stairway to excellence project

The European Commission Framework Programme (FP) for research and technology development has been vital in the development of European knowledge generation. However, there is considerable disparity across EU countries and regions in terms of FP participation and innovation performance.

Horizon 2020 will continue to provide funding on the basis of excellence, regardless of geographical location. However, it will also introduce novel measures for "spreading excellence and widening participation" by targeting low Research & Innovation (R&I) performing countries - most of whom are eligible for innovation funding under Cohesion Policy for the period 2014-2020.

In addition, the new regulations for ESIF aim to use funds more effectively to build regional/national excellence and capacities. By doing so, the two funding sources (ESIF and Horizon 2020) can complement one another along the entire innovation process.

Objectives of S2E

The Stairway to Excellence (S2E) project (<http://s3platform.jrc.ec.europa.eu/stairway-to-excellence>) is centred on the provision of support to enhance the value of two key European Union (EU) funding sources for research, development and innovation (ESIF and H2020) by actively promoting their combination. The project has two main objectives, namely:

- Providing of assistance to regions and countries that joined the EU since 2004 in closing the innovation gap, in order to promote excellence in all regions and EU countries;
- Stimulating the early and effective implementation of national and regional Smart Specialisation Strategies.

Main purpose of the document

The main aim of this document is to draw the European profile of a territory (region or country) with statistical and financial information coming from the EU 7th framework programme and Structural funds dedicated to research and innovation during the previous financial period (2007-2013). Other information is used in support of this aim. The document is guided by the following questions:

- What is the overall position of the territory in terms of FP7 budget captured and Structural funds dedicated to R&I?
- What are the specialisation areas emerging from FP7 participation? Are they corresponding with areas chosen in the smart specialisation strategy (S3)?
- What are the main R&I stakeholders involved in EU programmes? Are there any regional/ national specificities in terms of participation in EU programmes?
- What are the main European collaboration axes of the territory in the EU framework programme?

The document provides national authorities and the European Commission with relevant and useful information to facilitate the creation of synergies between structural funds dedicated to research and innovation and the Horizon 2020 programme.

The document is divided in four sections: (1) the keys messages coming from the direct interpretation of tables and figures provided in the following sections, (2) the main characteristics of the territory, (3) the specialisation areas, and (4) the Characterization of organisations participating in the FP with the identification of the key players and the main European organisations collaborating with the territory.

Complementarity with other analysis

This document contains key messages only based on the presented quantitative indicators. This "facts and figures" document provides as full a picture as possible of how and where European funding dedicated to R&I is spent in EU13 territories. Within the wider context of the Stairway to excellence project this work complements other analyses to give further insights into R&I funding in EU13 and related issues. Such complementary work includes:

- National profiles based on the input of country experts giving an updated picture of the strategy and governance at the national level.
- Knowledge flow analysis including the use of various types of indicators such as patents, bibliometrics, and FP/H2020 participations.
- Case studies giving examples of success stories of existing synergies between ESIF and other types of funding from across Europe.

The document will also provide background and context to workshops and meetings organised at the national and regional levels.

Source of information

The regional macro-economic indicators are provided by Eurostat. Regional specialisation areas and structural closeness are extracted from the S3 platform. The FP7 related information comes from the last updated FP7 contracts database (June 2014) provided by DG RTD J5. The information about Structural Funds is provided by DG REGIO database.

Disclaimer

This document aims to give an instantaneous picture about the expenditure of EU funding at NUTS2 level but it is NOT a monitoring report. Some gaps may occur in indicators without calling into account the key messages provided at the beginning of the document.

1. Key messages

Overall economic performance of the country by comparing macro-economic indicators, FP7 and Structural Funds indicators

- The level of R&D expenditure based on GDP in Latvia (0.6%) is lower than the EU13 average (1.05%) and the EU15 countries (2.09%). R&D expenditure is primarily concentrated in the academic sector (Higher Education and Governmental sectors) (Table 1).
- Unlike most of the EU13 countries, Latvia managed to maintain its funding share between FP6 and FP7 (Figure 1).
- Overall the EU13 countries are even outperformed by the countries associated to FP7. In FP7, Latvia accounts for 326 participations and 29 project coordinations. The FP7 financial contribution per inhabitant (22.7 €/inhabitant) is higher than the EU13 average (17.8 €/inhabitant) but remains far below the EU15 average (95.2 €/inhabitant). (Table 3).

EU funding allocation

- While the largest FP7 financial contribution to Latvia is from the Cooperation Specific Programme (the thematic part of FP7), there is a bias towards the Capacities specific programme (SME Measures, Research Infrastructures Initiatives etc.) as it accounts for around 36.7% of their contribution but only accounts for 8.5% of FP7 (Table 4 & Figure 2). In terms of FP7 funding instruments, it appears that Latvian organisations have had a preference for Coordination and support actions, infrastructure initiatives and ERA-NET actions (Table 5 & Figure 3).
- Based on the 2013 annual implementation report, 26.9% of Structural Funds earmarked for research and innovation (RTDI) are allocated to projects for "R&TD activities in research centres ". The second largest amount of Structural Funds goes to "Other measures to stimulate research and innovation and entrepreneurship in SMEs" (21.1%) (Table 6).
- In terms of funding absorption, Latvia did not allocate the whole envelope dedicated to research and innovation (88.7%). No significant variations in terms of what was originally programmed in the OP and what has finally been allocated among the priorities can be observed. The lowest absorption rate concerns the priority theme "Advanced support services for firms and groups of firms" (67.7% of the programmed funding has been allocated) and the highest rate is for the priority them "Other investment in firms" (103.6%) (Table 6).

Specialisation areas

- As with the other Baltic countries, Latvia has designed its smart specialisation strategy only at the national level. The 8 specialisation areas chosen by Latvia (Smart Energy, Bio-economy, Biomedicine, Medical Technologies and Biotechnology, Smart Materials, Technology and Engineering and Advanced ICT) are partially aligned with specialisation indicators observed for participation in FP7. (Tables 7&8)
- Latvian participants have shown a strong interest in FP7 priorities linked to Food and Agriculture, Health, Biotechnology, New Production Processes, Space, Socio economic Sciences and Humanities and Security (Figure 4 & Table 9).

Beneficiaries profile (including SME participation)

- By far the largest proportion of FP7 beneficiaries for Latvia (42.6% of the EU Contribution received by Latvia) is for Public Research organisations (Latvian academy of sciences). An important bias can be also observed regarding the participation of public administrations in Latvia. This category of participant represents 4.0% of the EU budget received by the country when it accounts only for 2.6% in the whole FP7. (Table 10, Table 15 & Figure 5). The higher participation of Public Bodies (in ERA-NET and Coordination and Support Actions) is a characteristic of New Member States.
- The financial contribution to SMEs is proportionally larger than in the FP7 cooperation programme. Latvia accounts for 21 participations of SMEs in the FP7 thematic programme, representing 11.4% of the EU budget received by the country. Latvian SMEs are involved in the ICT theme (7 participations), Food and Agriculture (4) and Security (3) (Table 11 & Figure 6).

- The overall success rate for Latvia (20.63%) is slightly higher than the average FP7 success rate (20.4%). The Latvian success rates are particularly high in Food and Agriculture, Energy, Space and Security and Joint Technology Initiative (Table 12).

Main collaboration axis between Latvia and other European regions

- The EU regions (countries) that Latvia collaborated with the most in FP7 were, logically, neighbour regions such as Estonia, Lithuania, and the Helsinki area but also Île-de-France (Paris area), Catalonia (Barcelona area), Lazio (Roma area), Madrid and Brussels (Table 13 & Figure 7).
- Latvian participation in FP7 is organised around all four categories of participant; structured into three distinct groups. Latvian Research organisations collaborate predominately with their EU counterpart when Latvian universities are mostly connected to Public Research organisation and Private Firms acting as an interface between public and private. Another sub-network is composed of Public Bodies showing strong interlinkages between Latvian public authorities and their European counterparts (Table 14 & Figure 8).

2. Main country characteristics

2.1 General macro-economic indicators

Table 1 demonstrates some selected macro-economic variables appertaining to the research and development activities, including the R&D expenditure and number of full time equivalent research personnel by different sectors. While the significant gap between EU15 and EU13 Member States is observable in this table, it also provides a general understanding of the position of the MS in the European context.

Table 1: General macro-economic indicators in 2013

| | Latvia | EU13* | EU15 | EU28 |
|---|-----------|-------------|-------------|-------------|
| Population | 2 023 825 | 105 127 027 | 401 484 800 | 506 611 827 |
| GDP - Euro per capita | 11 600 | 10 417 | 29 800 | 25 700 |
| GDP - Euro per capita in % of EU average | 44.9 | 40.5 | 115.3 | 100 |
| R&D expenditure – Total (million Euro) | 139.77 | 11 521.81 | 260 036.97 | 271 558.78 |
| R&D expenditure – Total [% of GDP] | 0.60 | 1.05 | 2.09 | 2.01 |
| R&D expenditure - Business Enterprise Sector (BES) [% of GDP] | 0.17 | 0.54 | 1.34 | 1.28 |
| R&D expenditure - Government Sector (GOV) [% of GDP] | 0.17 | 0.23 | 0.25 | 0.25 |
| R&D expenditure - Higher Education Sector (HES) [% of GDP] | 0.26 | 0.27 | 0.49 | 0.47 |
| R&D expenditure - Private non-Profit Sector (PnP) [% of GDP] | - | 0.004 | 0.02 | 0.02 |
| R&D Personnel** – Total (% of active population) | 0.53 | 0.62 | 1.25 | 1.12 |
| R&D Personnel – BES (% of active population) | 0.10 | 0.25 | 0.69 | 0.60 |
| R&D Personnel – GOV (% of active population) | 0.12 | 0.15 | 0.15 | 0.15 |
| R&D Personnel – HES (% of active population) | 0.32 | 0.22 | 0.39 | 0.36 |
| R&D Personnel – PnP (% of active population) | - | 0.002 | 0.01 | 0.01 |
| Unemployment Rate*** | 11.9 | 9.9 | 9.50 | 9.60 |

Source: Compiled and calculated by using Eurostat 2013

* As EU13 indicators are not available in the data sources, the values are calculated over national statistics provided by Eurostat 2013.

** R&D personnel refer to the number of full time equivalent R&D personnel.

***Unemployment uses latest available figures for 2013 age group 15 years and over.

2.2 Main EU funding targeting Research and Innovation received by the Country

2.2.1 Breakdown of the main EU funding received

The data in **Table 2** is for FP7 and the Structural Funds 2007-2013. The FP7 data represents the total EU contribution to projects for each "region" in Latvia. The information is from the contract database for FP7 and it represents funding to beneficiaries in the regions for projects that have been successfully evaluated. The table is ranked by the first region being the one with the largest contribution from FP7.

The data on structural funds is from the Annual Implementation Report (AIR)¹ for 2013 and represents the EU support allocated to selected projects. The values presented in Table 1 are only for priority themes that represent research and technological development, innovation and entrepreneurship (categories 1-9) and category 74 "Developing human potential in the field of research and innovation" as described in the Official Journal². Hereafter categories 1-9 and 74 are collectively known as research and technological development, and innovation (RTDI). It should be noted that these values do not represent the funding available, only the total allocated to projects at the time of the 2013 AIR.

¹ The Annual Implementation Reports are progress reports produced by the Structural Fund managing authority they monitor information on (1) allocations decided, (2) amounts allocated to projects and (3) the core indicators used for ERDF and Cohesion Fund.

² See Annex IV in Council Regulation (EC) No 1083/2006 available at <http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32006R1083&from=EN>

It is notable that more than 63.6% of the funds allocated to projects were managed at the national level rather than the regional level.

Table 2: Territorial (NUTS3 level) breakdown of FP7 EU contribution received by the country

| | FP7 EU contribution (€M) | % of the national total | FP7 EU contribution per capita (in €/inhab) | Structural funds RTDI (€M) | % of the national total | Structural funds dedicated to RTDI per capita (in €/inhab) |
|-------------------------|--------------------------|-------------------------|---|----------------------------|-------------------------|--|
| Kurzeme | 0.29 | 0.6% | - | 30.21 | 4.2% | - |
| Latgale | 0.63 | 1.3% | - | 20.56 | 2.9% | - |
| Rīga | 37.58 | 78.0% | - | 156.97 | 22.0% | - |
| Pierīga | 7.27 | 15.1% | - | 29.63 | 4.2% | - |
| Vidzeme | 0.77 | 1.6% | - | 8.18 | 1.1% | - |
| Zemgale | 1.66 | 3.4% | - | 13.43 | 1.9% | - |
| LATVIA (National level) | - | - | - | 453.29 | 63.6% | - |
| | 48.19 | 100% | 22.7 | 712.28 | 100% | 335.7 |

Source: EC FP7 contract database June 2014 and Annual Implementation Report (AIR) for 2013

It should be noted that the above are for the NUTS3 level. Latvia as a whole is classed as NUTS2.

2.2.2 Latvia in the FP7³

This section presents how the country participated in the FP7 by comparison with the EU13, the EU15 and FP7 in

- The EU FP7 budget captured (also per inhabitant), the number of participation and coordination (**Table 3**), by the yearly trend of EU FP7 budget received since the FP6 (**Figure 1**).
- The breakdown between FP7 specific programmes (**Figure 2** and **Table 4**) and funding instruments (comparison only with the FP7) (**Figure 3** and **Table 5**).

Table 3: General FP7 indicators

| | Latvia (% of FP7) | EU13 (% of FP7) | EU15 (% of FP7) | FP7 ⁴ |
|---------------------------------------|-------------------|-----------------|------------------|------------------|
| EU Contribution (in M€) | 48.2 (0.11%) | 1 883.6 (4.2%) | 37 852.2 (85.3%) | 44 364,1 |
| Number of participations | 326 (0.25%) | 10 637 (8.0%) | 105 731 | 132 382 |
| Number of coordinations | 29 (0.12%) | 1 011 (4.0%) | 20 301 | 25 052 |
| EU Contribution per inhabitant (in €) | 22.7 | 17.8 | 95.2 | 78.9 (EU28) |

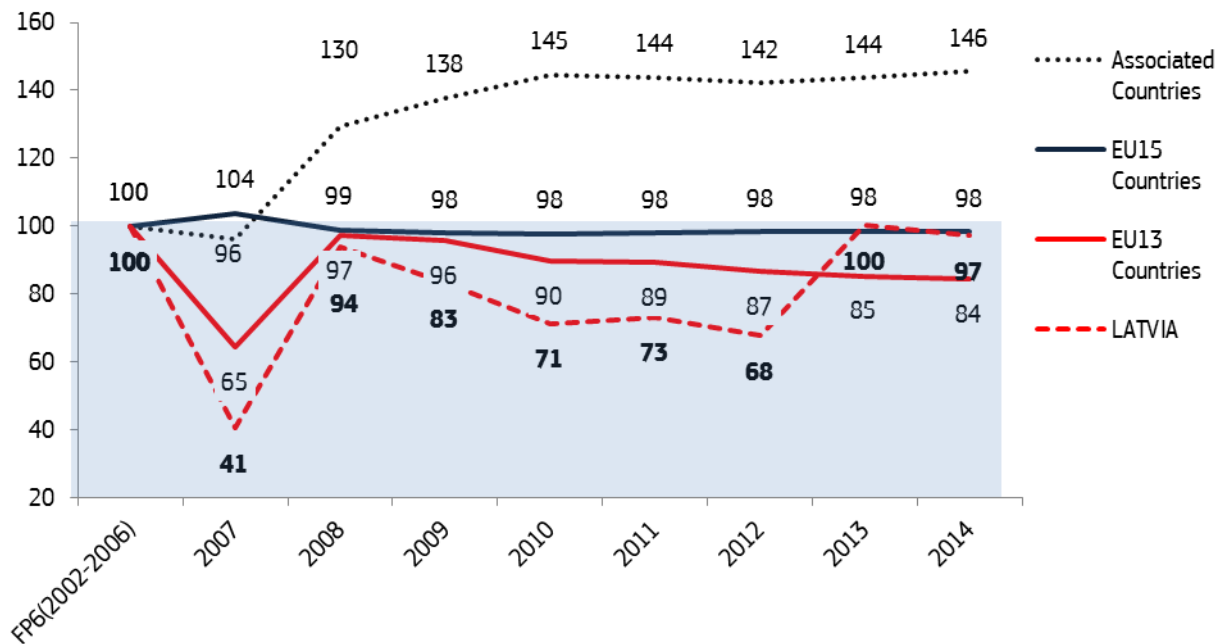
Source: JRC/IPTS calculated using the EU FP7 contract database June 2014

The following graph shows the evolution of the share of FP7 budget for the 15 "old" members States (EU15), the 13 "new" member States, the associated countries and the country under consideration. The share of budget from FP6 is considered as the reference (Base 100). The graph shows the share of cumulated funding by year for each of these categories. Therefore, the year 2014 represents the total share of budget taken in the FP7.

³ The "Headquarter effect" in the FP7 contract database can be an important issue for Regions (especially in the most centralized countries). If available, the location of a research department has been used as the "true" location if this differs from the headquarter location.

⁴ EU28 and associated countries

Figure 1: Evolution of the Share of EU FP contribution received between 2006 and 2014 (EU FP6 budget share taken as base 100)



Source: data FP6 and FP7 contract database-June 2014, processed by JRC-IPTS

Figure 2 and Table 4 below show the difference between national profile and FP7 specific programmes where the FP7 breakdown is taken as reference.

Figure 2: Comparison of the EU Contribution breakdown among FP7

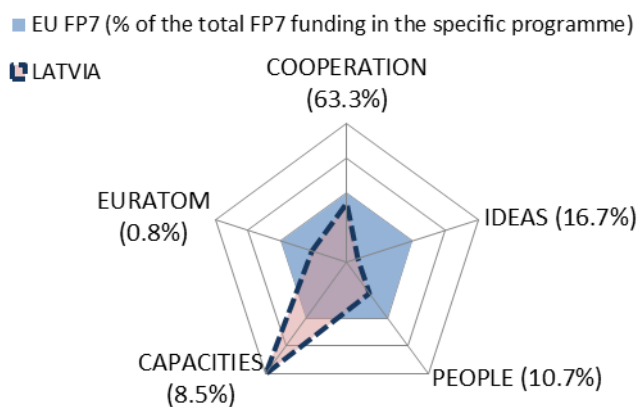


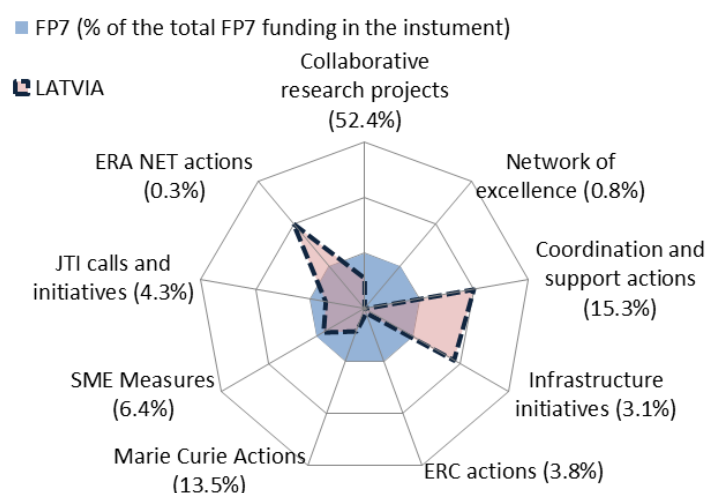
Table 4: Breakdown of the FP7 EU Contribution among specific programmes

| | % of EU Contribution | |
|-------------|----------------------|-------|
| | Latvia | FP7 |
| COOPERATION | 54.1% | 63,3% |
| IDEAS | 2.8% | 16,7% |
| PEOPLE | 6.0% | 10,7% |
| CAPACITIES | 36.7% | 8,5% |
| EURATOM | 0.4% | 0,8% |
| | 100% | 100% |

Source: JRC/IPTS calculated using the EC FP7 contract database June 2014

Source: JRC/IPTS using the EC FP7 contract database June 2014

Figure 3: Comparison of funded participations breakdown among FP7 funding instruments



Source: JRC/IPTS using the EC FP7 contract database June 2014

Table 5: Breakdown of the participations among FP7 funding instruments

| | % of EU Contribution | |
|----------------------------------|----------------------|-------|
| | Latvia | FP7 |
| Collaborative research projects | 28.8% | 52.4% |
| Network of excellence | 0.0% | 0.8% |
| Coordination and support actions | 48.8% | 15.3% |
| Infrastructure initiatives | 5.8% | 3.1% |
| ERC actions | 0.3% | 3.8% |
| Marie Curie Actions | 5.8% | 13.5% |
| SME Measures | 5.5% | 6.4% |
| JTI calls and initiatives | 3.1% | 4.3% |
| ERA NET actions | 1.8% | 0.3% |
| | 100% | 100% |

Source: JRC/IPTS calculated using the EC FP7 contract database June 2014

2.2.3 Structural funds⁵ dedicated to Research and Innovation in Latvia

Table 6 shows the estimated funds for the Latvia Entrepreneurship and Innovations OP (ERDF) and Human Resources and Employment OP (ESF) dedicated to the priority themes identified as research and technological development, innovation and entrepreneurship (RTDI). Only those priority themes that actually have funds attributed to them are shown in the table. There are ten priority themes identified as RTDI:

1. R&TD activities in research centres
2. R&TD infrastructure and centres of competence in a specific technology
3. Technology transfer and improvement of cooperation networks
4. Assistance to R&TD, particularly in SMEs (including access to R&TD services in research centres)
5. Advanced support services for firms and groups of firms
6. Assistance to SMEs for the promotion of environmentally-friendly products and production processes
7. Investment in firms directly linked to research and innovation
8. Other investment in firms
9. Other measures to stimulate research and innovation and entrepreneurship in SMEs
74. Developing human potential in the field of research and innovation, in particular through post-graduate studies.

⁵ ERDF = European Regional Development Fund, ESF = European Social Fund, CF = Cohesion Fund

Table 6: Estimated funding dedicated to research and innovation in the Latvian Operational Programmes for 2007-2013

| Priority code | Priority Theme | Estimate in Adopted OP | | | AIR 2013 | | | Absorption (b/a) |
|--|---|------------------------|---------------|--------------|--------------|--------------|-------------|------------------|
| | | M€ (a) | % of OP | % of RTDI | M€ (b) | % of OP | % of RTDI | |
| Entrepreneurship and Innovations OP | | | | | | | | |
| 1 | R&TD activities in research centres | 211.0 | 30.3 % | 31.3 % | 188.7 | 30.5% | 31.7% | 89.4 % |
| 3 | Technology transfer and improvement of cooperation networks ... | 73.1 | 10.5 % | 10.9 % | 60.6 | 9.8% | 10.2% | 82.9 % |
| 5 | Advanced support services for firms and groups of firms | 29.8 | 4.3 % | 4.4 % | 20.0 | 3.2% | 3.4% | 67.1 % |
| 7 | Investment in firms directly linked to research and innovation (...) | 159.8 | 22.9 % | 23.7 % | 145.5 | 23.6% | 24.5% | 91.1 % |
| 8 | Other investment in firms | 30.9 | 4.4 % | 4.6 % | 32.1 | 5.2% | 5.4% | 103.6 % |
| 9 | Other measures to stimulate research and innovation and entrepreneurship in SMEs | 168.8 | 24.2 % | 25.1 % | 148.2 | 24.0% | 24.9% | 87.8 % |
| | Total research and innovation activities in Operational Programme | 673.3 | 96.7 % | 100 % | 595.0 | 96.3% | 100% | 88.4 % |
| | Total Operational Programme | 696.3 | 100 % | - | 617.9 | 100% | - | 88.7 % |
| Human Resources and Employment OP | | | | | | | | |
| 74 | Developing human potential in the field of research and innovation, in particular through post-graduate studies | 115.4 | 19.8 % | 100 % | 107.3 | 17.8 % | 100 % | 92.9 % |
| | Total Operational Programme | 583.1 | 100 % | - | 602.4 | 100 % | - | 103.3 % |
| Overall RTDI | | 788.7 | | | 702.3 | | | 89.0% |

Source: JRC/IPTS based on the Latvia Operational Programme for 2007-2013 and AIR 2013

Latvia also had an **Infrastructure and Services Operational Programme** (Cohesion Fund) for the 2007-2013 period. This had estimated total funding in the OP of 3 251M€, however, none of this was originally dedicated to RTDI priority themes. During implementation funds were, however, allocated to projects under the "Other measures to stimulate research and innovation and entrepreneurship in SMEs" (Priority Theme nine) amounting to **9.97M€** in the AIR 2013.

3. National specialisation areas

3.1 Specialisation areas chosen in the smart specialisation strategy for the period 2014-2020

The following tables show the specialisation areas chosen by Latvia in the design of their smart specialisation strategy. Based on information that regional and national authorities submit to the Eye@RIS3⁶ database the following related information is added:

- the capability for the priority;
- the target market that will be addressed; and
- the EU priority to which this specialisation area connects.

Capability and market categories are based on NACE⁷ sectoral codes. Often these capability and market categories overlap, as is the case in for Latvia. Any subcategories were combined with the main category.

Table 7 Specialisation areas chosen in the smart specialisation strategy of Latvia

| Description of chosen specialisation area | Identified capability | Identified target market | EU priority connected to |
|--|--|---|--|
| Smart Energy | Energy production & distribution | Energy production & distribution | Sustainable innovation - Sustainable energy & renewables |
| Knowledge intensive bio-economy | Manufacturing & industry - Biotechnology | Manufacturing & industry - Biotechnology | KETs - Industrial biotechnology |
| Biomedicine, medical technologies and biotechnology. | Manufacturing & industry - Basic pharmaceutical products & pharmaceutical preparations | Manufacturing & industry | KETs - Industrial biotechnology |
| Smart materials, technology and engineering. | Manufacturing & industry - Other manufacturing | Services - Basic pharmaceutical products & pharmaceutical preparations - Architectural & engineering activities, technical testing & analysis | KETs -Advanced materials |
| Advanced ICT | Information & communication technologies (ICT) | Information & communication technologies (ICT) | Digital Agenda |

Source: S3 web platform <http://s3platform.jrc.ec.europa.eu/eye-ris3>

3.2 Regional & national specialisation indication through the participation in FP7 for the period 2007-2014

In the innovation Union progress report published in 2014⁸, the science and technology classifications were matched with FP7 thematic priorities thereby offering the possibility of further analysis of co-developments of science and technologies at the EU and national level. We choose here to follow the same taxonomy in order to offer the reader the possibility to compare easily specialisation information provided by the IU progress report and those provided in this report.

The following table shows the participation breakdown by EU Contribution among research areas. Correspondence with specialisation areas chosen by the region and countries in their Smart Specialisation strategy is shown in the last column according to JRC-IPTS interpretation. Some specialisation areas chosen by the region or country can be too generic or on the contrary too specific with regard to the taxonomy used. In this case, we consider the research area not being fully covered by S3 strategy.

⁶ <http://s3platform.jrc.ec.europa.eu/eye-ris3>

⁷ http://epp.eurostat.ec.europa.eu/portal/page/portal/nace_rev2/introduction

⁸ http://ec.europa.eu/research/innovation-union/pdf/state-of-the-union/2014/iuc_progress_report_2014.pdf#view=fit&pagemode=none

FP7 participations can be analysed with regard to specialisation indicators provided with bibliometric and patents indicators provided in the Innovation Union progress report (only) at national level.

- yes = Research area fully included into S3 priority definition;
- yes partially= Research area only partially included into S3 priority definition (S3 priority definition do not cover the full scope the research area).

Table 8: General assessment of the participation of the country in the FP7 themes and activities and correspondence with specialisation areas of S3

| Research area | EU contribution (in M€) | S3 Priority alignment |
|---|-------------------------|-----------------------|
| Food, Agriculture and Fisheries | 2.33 | |
| Biotechnology | 1.09 | yes partially |
| Health | 8.87 | yes partially |
| Information & communication technologies (ICT) | 4.32 | yes partially |
| Nanosciences & Nanotechnologies | 0.16 | |
| Materials | 0.35 | yes |
| New production technologies (incl. Construction technologies) | 1.43 | yes |
| Integration of nanotechnologies for industrial applications (JTI ENIAC Incl.) | 0.31 | |
| Energy | 1.74 | yes |
| Environment | 0.73 | |
| Aeronautics | 0.51 | |
| Space | 1.01 | |
| Automotive | 0.07 | |
| Rail | 0.06 | |
| Waterborne | 0.17 | |
| Urban transport and intermodalities | 0.43 | |
| Socio economic sciences and humanities | 0.82 | |
| Security | 1.54 | |
| TOTAL Cooperation Programme | 25.94 | |
| TOTAL Cooperation Programme related to S3 priorities | 17.8 (68.6%) | |

Source: data: FP7 contracts database-June 2014, processed by JRC-IPTS

Regarding specialisation areas emerging from the FP7 participation, the following graph shows the difference in the budget breakdown between overall FP7 funding and the FP7 contribution received by the country (or the region) among themes. This is not a performance indicator because we are only comparing the territory (Country or Region) with itself. In order to avoid mass effect of better funded themes (such as Health, ICT for instance) It has been decided to consider a uniform distribution of the overall FP7 funding among themes. Graph show if indicator is superior to 1 an "over-distribution" or a "sub-distribution" if indicator inferior to 1. The graph must be read with the table hereunder. The table show the weight of each theme in the total funding.

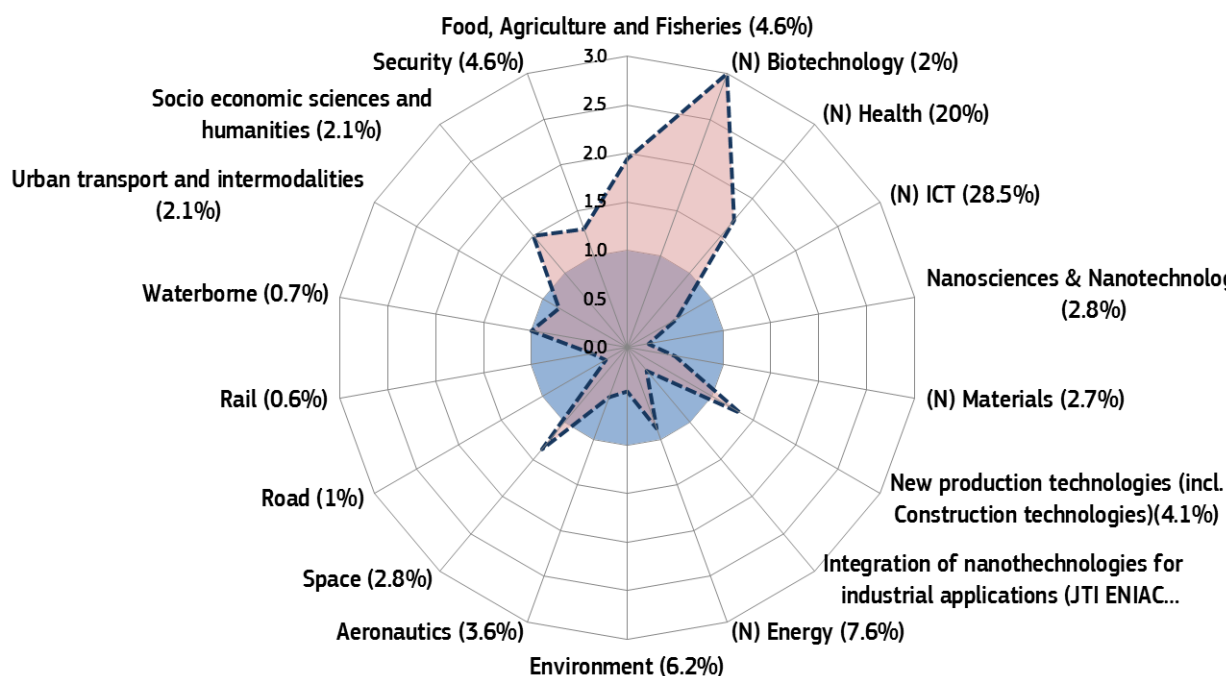
The matching between smart specialisation areas chosen by (national or regional) authorities should be treated with care in the case of specialisation areas that are more detailed than FP7 or conversely less detailed. The theme funded by FP7 encompasses a broad range of activities (see table in annex 1 to see research activities funded under each theme) whereas Specialisation areas concern only one or a limited number of activities.

Figure 4: S&T specialisation areas according to the EU Contribution received by FP7 participants

■ Framework programme 7 (% of FP7 funding in the area)

▣ LATVIA

(N): National smart specialisation area chosen



(Source: data: FP7 contracts database-June 2014, processed by JRC-IPTS)

Table 9: Budget breakdown among themes (Figure 4 is only the graphical interpretation of this table)

| Research area | Latvia | FP7 |
|---|-------------|-------------|
| Food, Agriculture and Fisheries | 9.0% | 4.6% |
| Biotechnology | 4.2% | 2.0% |
| Health | 34.2% | 20.0% |
| ICT | 16.7% | 28.5% |
| Nanosciences & Nanotechnologies | 0.6% | 2.8% |
| Materials | 1.3% | 2.7% |
| New production technologies (incl. Construction technologies) | 5.5% | 4.1% |
| Integration of nanotechnologies for industrial applications | 1.2% | 3.9% |
| Energy | 6.7% | 7.6% |
| Environment | 2.8% | 6.2% |
| Aeronautics | 2.0% | 3.6% |
| Space | 3.9% | 2.8% |
| Automotive | 0.3% | 1.0% |
| Rail | 0.2% | 0.6% |
| Waterborne | 0.7% | 0.7% |
| Urban transport and intermod. | 1.7% | 2.1% |
| Socio economic sciences and humanity | 3.2% | 2.1% |
| Security | 5.9% | 4.6% |
| TOTAL Cooperation Programme | 100% | 100% |

Source: IPTS/JRC calculated using the FP7 contracts database-June 2014

4. EU funding users profile

4.1 FP7 beneficiaries profile

4.1.1 Participation profile by type of activity

Figure 5 shows graphically the difference between national (in dark blue) and regional (red line) participation profile by type of participant with the FP7 breakdown taken as the reference (in Base 100). We observe the difference in the distribution at country level and at regional level. **Table 10** complements the figure comparing the breakdown of FP7 contribution among the participant typology for the region, the country and the whole FP7 participants.

Figure 5: Comparison of the EU contribution breakdown by type of participant between FP7 profile (in base 100) and national profile

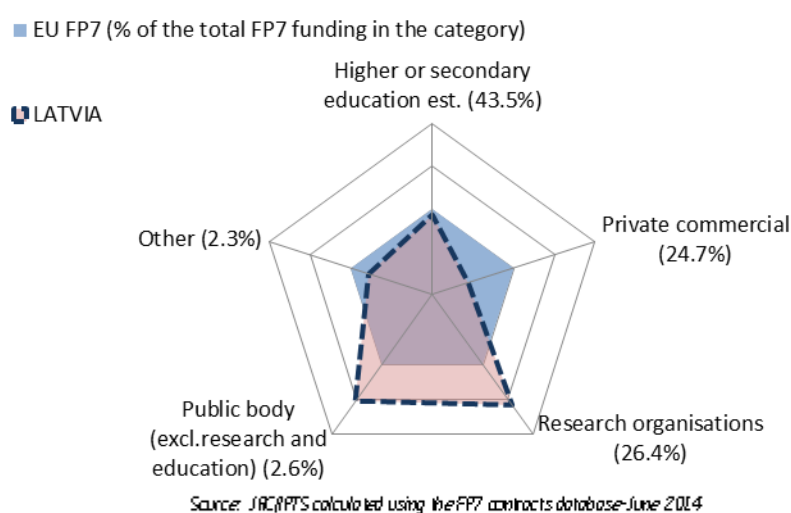


Table 10: Breakdown of the FP7 EU contribution

| | % of EU Contribution | |
|--|----------------------|-------|
| | Latvia | FP7 |
| Higher or secondary education est. | 40.6% | 43.5% |
| Private commercial | 10.9% | 24.7% |
| Research organisations | 42.6% | 26.9% |
| Public body (excl. research and education) | 4.0% | 2.6% |
| Other | 1.8% | 2.3% |
| | 100% | 100% |

Source: JRC/IPTS calculated using the FP7 contracts database-June 2014

FP7 SME Participation

This section shows the participation of SMEs from the country in the FP7 cooperation programme and other activities and compares figures with the national level. **Table 11** provides information about SMEs' participation in the regional research and innovation landscape. The official EU target is 15% of FP7 budget dedicated to the cooperation programme (thematic) should go to SMEs. The country level (i) is compared in budget and in number of participations and coordinations to and to the overall FP7 (column ii).

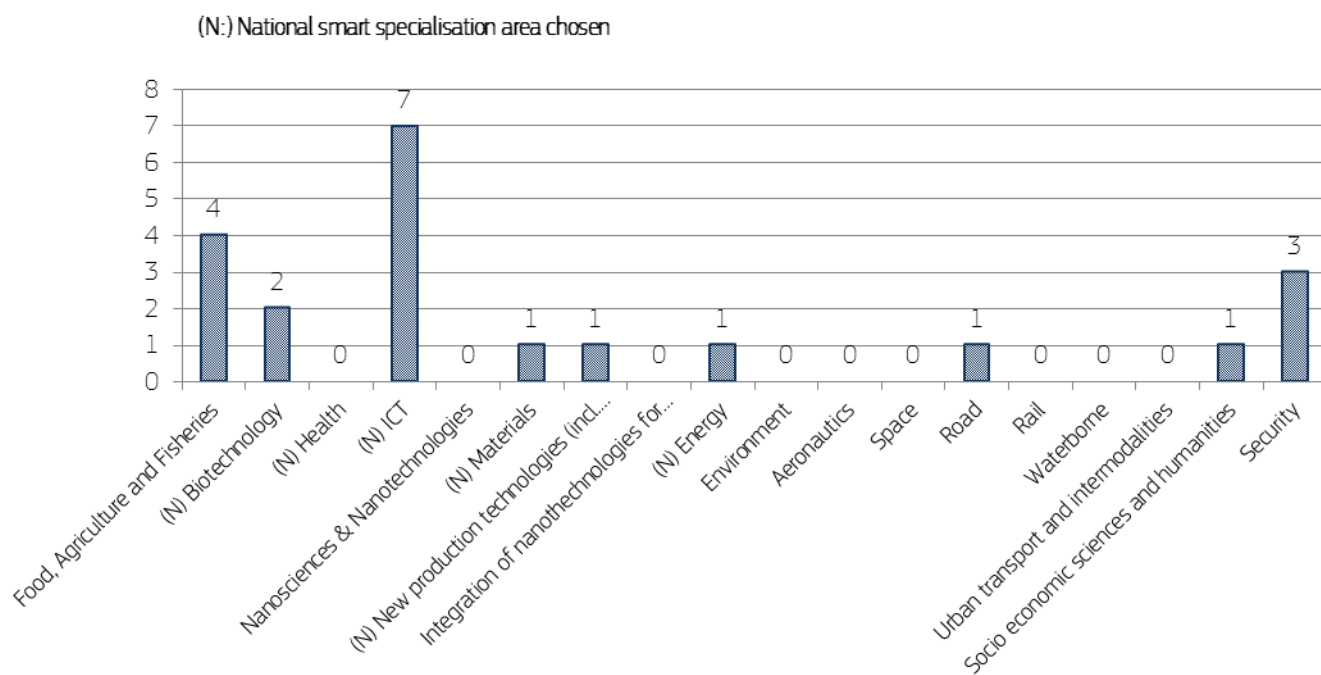
Table 11: General indicators about SME participation in the FP7 Cooperation programme

| | Latvia (i) | FP7 (ii) |
|--|--------------|-----------------|
| EC Financial Contribution-Cooperation programme | 2.97 (11.4%) | 2 560.42 (9.1%) |
| Number of SME participation- Cooperation programme | 21 (12.6%) | 9 483 (10.9%) |
| Number of SME coordination- Cooperation programme | 2 (33.3%) | 555 (7.1%) |

Source: data: FP7 contracts database-June 2014 processed by JRC-IPTS

The participation of Latvian SMEs among the various research areas is shown with **Figure 6**. Information about the chosen national (N) specialisation areas are given to assess the extent to which the research theme participation of SMEs corresponds to the specialisation areas.

Figure 6: Number of SMEs in FP7 research themes for Latvia



Source : data: FP7 contracts database-June 2014. Processed by JRC-IPTS

4.1.2 Success rates: Comparison between national and overall FP7 in FP7 themes and activities

The following table shows a comparison of success rates by FP7 themes and activities between national and FP7 level. Information at regional level is not shown because it is not reliable enough to be considered in the analysis.

● : National success rate is above EU average

▼ : National success rate is below EU average

Table 12 Success rates by Themes or activities- Comparison between national and European level

| FP7 specific programme | Theme/ Activity | Latvia | | | FP7 | | |
|------------------------|---|------------------------|---------------------------------|--------------|------------------------|---------------------------------|--------------|
| | | Nbr of Participations* | Nbr of Retained participations* | Success Rate | Nbr of Participations* | Nbr of Retained participations* | Success Rate |
| COOPERATION | Health | 74 | 11 | ▼ 14.9% | 41 361 | 10 275 | 24.8% |
| COOPERATION | Food, Agriculture, and Biotechnology | 124 | 29 | ● 23.4% | 35 362 | 7 465 | 21.1% |
| COOPERATION | Information and Communication Technologies | 208 | 25 | ▼ 12.0% | 131 030 | 21 356 | 16.3% |
| COOPERATION | Nanosciences, Nanotechnologies, Materials and new Production Technologies | 67 | 12 | ▼ 17.9% | 35 451 | 9 354 | 26.4% |
| COOPERATION | Energy | 37 | 16 | ● 43.2% | 17 415 | 4 072 | 23.4% |
| COOPERATION | Environment (including Climate Change) | 74 | 10 | ▼ 13.5% | 31 912 | 6 825 | 21.4% |
| COOPERATION | Transport (including Aeronautics) | 63 | 13 | ▼ 20.6% | 30 340 | 8 779 | 28.9% |
| COOPERATION | Socio-economic sciences and Humanities | 111 | 11 | ▼ 9.9% | 23 830 | 2 492 | 10.5% |
| COOPERATION | Space | 20 | 7 | ● 35.0% | 8 277 | 2 397 | 29.0% |
| COOPERATION | Security | 60 | 15 | ● 25.0% | 18 826 | 3 595 | 19.1% |
| COOPERATION | General Activities (Annex IV) | 0 | 0 | | 120 | 50 | 41.7% |
| COOPERATION | Joint Technology Initiatives (Annex IV-SP1) | 26 | 14 | ● 53.8% | 15 299 | 6 277 | 41.0% |
| COOPERATION | TOTAL COOPERATION | 864 | 163 | ▼ 18.9% | 389 223 | 82 937 | 21.3% |
| IDEAS | European Research Council | 48 | 2 | ▼ 4.2% | 54 789 | 5 312 | 9.7% |
| PEOPLE | Marie-Curie Actions | 214 | 86 | ● 40.2% | 111 266 | 22 530 | 20.2% |
| CAPACITIES | Research Infrastructures | 31 | 18 | ● 58.1% | 10 677 | 4 564 | 42.7% |
| CAPACITIES | Research for the benefit of SMEs | 224 | 19 | ▼ 8.5% | 48 493 | 8 426 | 17.4% |
| CAPACITIES | Regions of Knowledge | 30 | 2 | ▼ 6.7% | 3 844 | 746 | 19.4% |
| CAPACITIES | Research Potential | 33 | 4 | ● 12.1% | 3 107 | 362 | 11.7% |
| CAPACITIES | Science in Society | 36 | 8 | ▼ 22.2% | 7 329 | 1 961 | 26.8% |
| CAPACITIES | Coherent development of research policies | 0 | 0 | | 390 | 89 | 22.8% |
| CAPACITIES | Activities of International Cooperation | 6 | 2 | ▼ 33.3% | 3 908 | 1 476 | 37.8% |
| EURATOM | Fusion Energy | 0 | 0 | | 79 | 65 | 82.3% |
| EURATOM | Nuclear Fission and Radiation Protection | 8 | 4 | ● 50.0% | 3 113 | 1 539 | 49.4% |
| FP7 | TOTAL | 1 494 | 308 | ● 20.6% | 636 218 | 130 007 | 20.4% |

Source : data: FP7 proposals database-Feb 2014, processed by JRC-IPTS

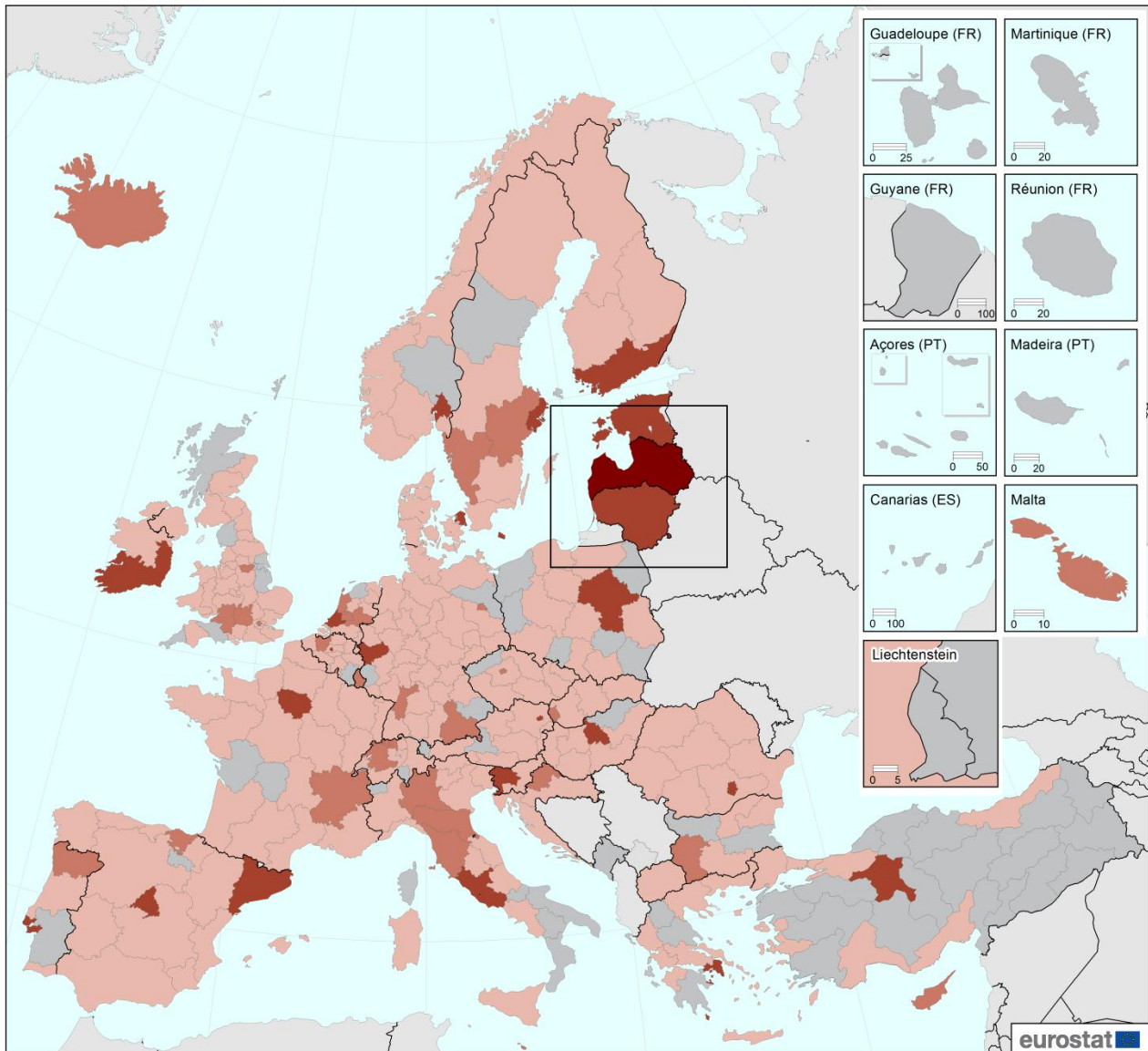
4.2 FP7 Main collaboration axis and stakeholder analysis

4.2.1 From a territorial perspective

The map below shows the European regions (at NUTS2 level) collaborating the most with Latvia in the FP7. **Table 13** shows the list of the first regions collaborating with Latvian organisations. The figure represents the number of projects where at least one participant from Latvia collaborates with at least one participant from the other region.

Figure 7: Origins of organisations collaborating with Latvia in the FP7

Source: EC FP7 Contract database-cooperation programme processed by JRC-IPTS



Administrative boundaries: © EuroGeographics © UN-FAO © Turkstat

Number of collaborations

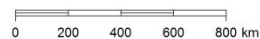
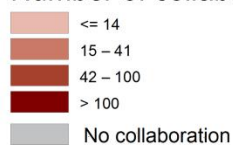


Table 13: The closest EU region from Latvia in the FP7

| Rank | NUTS2 Code | Name | Number of Collaborations |
|------|------------|--|--------------------------|
| 1 | FR10 | Île de France | 100 |
| 2 | ITE4 | Lazio | 82 |
| 3 | ES30 | Comunidad de Madrid | 79 |
| 4 | BE10 | Région de Bruxelles-Capitale / Brussels Hoofdstede | 65 |
| 5 | EL30 | Attiki | 64 |
| 6 | EE00 | Eesti | 61 |
| 7 | AT13 | Wien | 58 |
| 8 | RO32 | București - Ilfov | 58 |
| 9 | HU10 | Közép-Magyarország | 56 |
| 10 | PL12 | Mazowieckie | 55 |

Source: JRC/IPTS calculated using the FP7 contracts database-June 2014

4.2.2 From a stakeholder perspective

Table 14 shows the organisations most frequently collaborating with organisations based in Latvia in the FP7 programme and **Table 15** shows the FP7 leading organisations based in Latvia.

Table 14: The leading organisations collaborating with organisations based in Latvia in FP7

| Legal name | Themes/Activities | Type | NUTS2 | Nbr of collaborations |
|--|--|------|-------|-----------------------|
| Ministrstvo za izobraževanje, znanost in sport | Nanosciences, Nanotechnologies, Materials and Production | PUB | SI02 | 6 |
| TURKIYE BILIMSEL VE TEKNOLOJIK ARASTIRMA KURUMU | Research Infrastructures | REC | TR51 | 6 |
| NORGES FORSKNINGSRAD | Food, Agriculture, and Biotechnology | PUB | NO01 | 6 |
| COMMISSARIAT A L ENERGIE ATOMIQUE ET AUX ENERGIES ALTERNATIVES | Nuclear Fission and Radiation Protection | REC | FR10 | 6 |
| WAGENINGEN UNIVERSITY | Food, Agriculture, and Biotechnology | HES | NL22 | 5 |
| CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE | Research Infrastructures | REC | FR10 | 5 |
| VILNIAUS UNIVERSITETAS | Research Infrastructures | HES | LT00 | 5 |
| UNIVERSITAET WIEN | Research Infrastructures | HES | AT13 | 5 |
| MINISTERIE VAN ECONOMISCHE ZAKEN | Food, Agriculture, and Biotechnology | PUB | NL33 | 5 |
| UNIVERSITA TA MALTA | Research Infrastructures | HES | MT00 | 5 |
| HELSINGIN YLIOPISTO | Research Infrastructures | HES | FI18 | 5 |
| AN TUDARAS UM ARD OIDEACHAS | Socio-economic sciences and Humanities | HES | IE02 | 5 |
| MATIMOP, ISRAELI INDUSTRY CENTER FOR RESEARCH & DEVELOPMENT | Information and Communication Technologies | PUB | IL | 5 |
| Ministerul Educatiei Nationale | Nanosciences, Nanotechnologies, Materials and Production | PUB | RO32 | 5 |
| NORGES FORSKNINGSRAD | Nanosciences, Nanotechnologies, Materials and Production | PUB | NO01 | 5 |
| INSTITUTO NACIONAL DE INVESTIGACION Y TECNOLOGIA AGRARIA Y ALIMENTARIA | Food, Agriculture, and Biotechnology | REC | ES30 | 5 |
| STICHTING DIENST LANDBOUWKUNDIG ONDERZOEK | Food, Agriculture, and Biotechnology | REC | NL22 | 5 |
| INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE | Food, Agriculture, and Biotechnology | REC | FR10 | 5 |
| Gamtos tyrimų centras | Research Infrastructures | REC | LT00 | 4 |
| FORSKNINGSRÅDET FÖR MILJÖ, AREELLA NÄRINGAR OCH SAMHÄLLSBYGGANDE | Food, Agriculture, and Biotechnology | PUB | SE11 | 4 |

Source: JRC/IPTS calculated using the FP7 contracts database-June 2014

Table 15: The leading organisations based in Latvia in FP7

| Legal Name | Themes/Activities | Type | Nbr of participations |
|--|---|------|-----------------------|
| LATVIJAS UNIVERSITATE | Marie-Curie Actions | HES | 15 |
| RIGAS TEHNISKA UNIVERSITATE | Marie-Curie Actions | HES | 9 |
| LATVIJAS VALSTS KOKSNES KIMIJAS INSTITUTS | Marie-Curie Actions | REC | 8 |
| LATVIJAS UNIVERSITATE | Research Infrastructures | HES | 7 |
| DAUGAVPILS UNIVERSITATE | Marie-Curie Actions | HES | 7 |
| LATVIJAS LAUKSAIMNIECIBAS UNIVERSITATE | Marie-Curie Actions | HES | 7 |
| RIGAS STRADINA UNIVERSITATE | Marie-Curie Actions | HES | 6 |
| REZEKNES AUGSTSKOLA RA | Marie-Curie Actions | HES | 6 |
| LATVIJAS ZINATNU AKADEMIJA | Marie-Curie Actions | REC | 6 |
| LATVIJAS ZINATNU AKADEMIJA | Nanosciences, Nanotechnologies, Materials and new Production Technologies | REC | 6 |
| LATVIJAS ORGANISKAS SINTEZES INSTITUTS | Marie-Curie Actions | REC | 6 |
| LATVIJAS UNIVERSITATES MATEMATIKAS UN INFORMATIKAS INSTITUTS | Research Infrastructures | REC | 5 |
| LATVIJAS UNIVERSITATES AGENTURA LATVIJAS UNIVERSITATES FIZIKAS INSTITUTS | Nuclear Fission and Radiation Protection | REC | 5 |
| LATVIJAS ZINATNU AKADEMIJA | Food, Agriculture, and Biotechnology | REC | 5 |
| VENTSPILS AUGSTSKOLA | Marie-Curie Actions | HES | 5 |
| RIGAS TEHNISKA UNIVERSITATE | Security | HES | 4 |
| NODIBINAJUMS BALTIC STUDIES CENTRE | Food, Agriculture, and Biotechnology | REC | 4 |
| TILDE SIA | Information and Communication Technologies | PRC | 4 |
| VALSTS AKCIJU SABIEDRIBA LATVIJAS JURAS ADMINISTRACIJA*MARITIME ADMINISTRATION OF LATVIA MAL | Transport (including Aeronautics) | PUB | 4 |
| LATVIJAS UNIVERSITATE | Information and Communication Technologies | HES | 4 |
| RIGAS TEHNISKA UNIVERSITATE | Energy | HES | 4 |
| RIGAS TEHNISKA UNIVERSITATE | Joint Technology Initiatives (Annex IV-SP1) | HES | 4 |

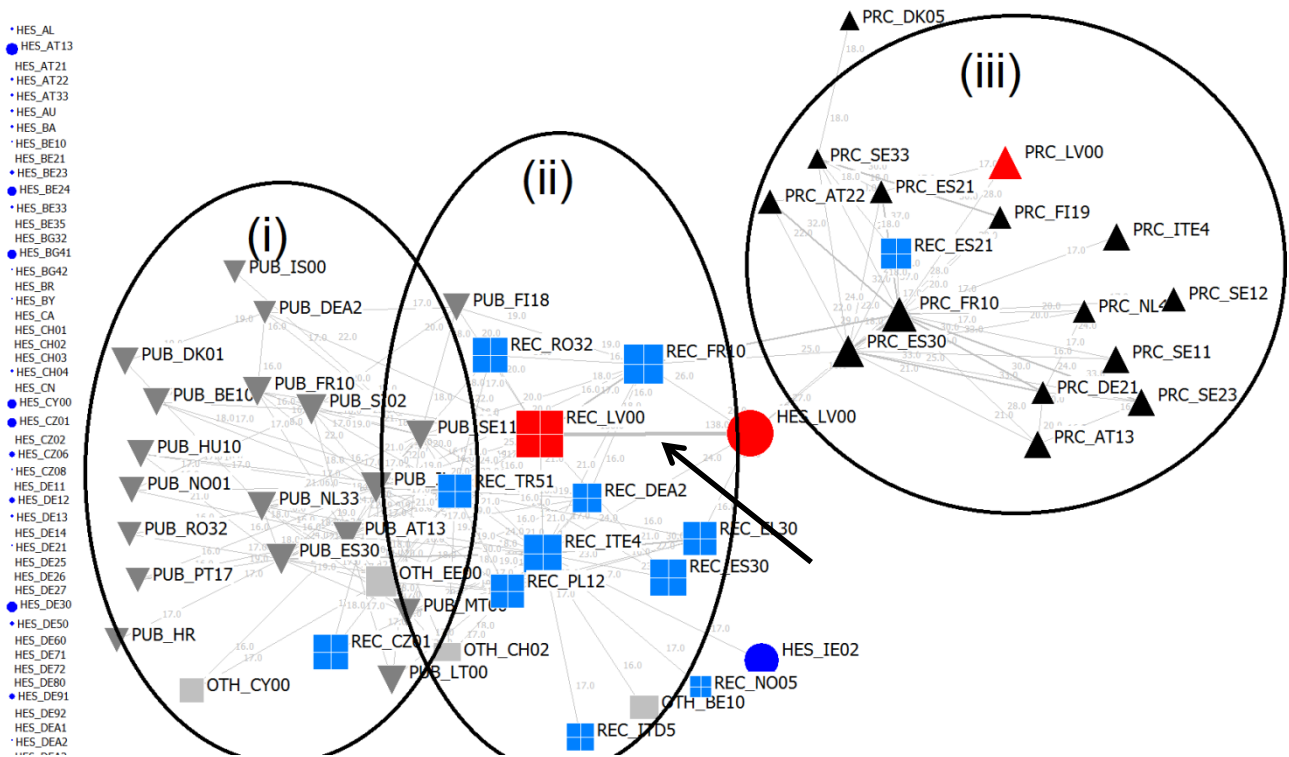
Source: JRC/IPTS calculated using the FP7 contracts database-June 2014

Figure 8 is a network analysis revealing the main collaboration links between organisations based in the country with national and international organisations. To improve the readability, organisations have been gathered in "groups" according to their type of activities (research, industry, higher education, governmental) and their geographical origins (according to NUTS2 classification). The graph does not show the full picture, some groups (nodes) may not appear on the graph if they do not have at least one strong link to another group (only a part of the unconnected nodes appears in the left side of the graph).

In the case of Latvia, three rather homogeneous sub-networks can be easily identified:

- i. This area is made of public bodies (PUB) mostly ministries or Agencies from EU member States involved in ERA-nets and coordination and support actions (CSA). This type of participants is connected to public research organisations (REC).
- ii. This area is essentially composed of public research organisations (REC). A Latvian public organisation (mostly Latvian academy of sciences) appears in the centre of the graph. The graph shows that Latvian research organisations are strongly linked to Latvian universities (HES_LV) who is acting as an interface between business sector (PRC) and the other participants.
- iii. A third Sub-network is essentially made of Private companies (PRC). Latvian companies (PRC_LV00) appear isolated from the other participants connecting with other (Latvian but not only) participants through other firms based in EU member States.

Figure 8 The main collaboration network of Latvia in the FP7



Remark: -The graph does not show the full picture of regional collaborations. A node appears on the graph only if the number of connections (collaborations) is superior to 6.

HES Higher or secondary education est.

REC Public Research organisations

PRC Private commercial (Large companies and SME)

PUB Public body (excl. research and education)

OTH Other private organisations

AT13 Wien

BE10 Région de Bruxelles-Capitale

BE23 Prov. Oost-Vlaanderen

BG41 Югозападен/ Yugozapaden

CY00 Cyprus

CZ01 Praha

DEA2 Köln

EL30 Attiki

ES30 Comunidad de Madrid

ES51 Catalunya

ES53 Illes Balears

FI18 Etelä-Suomi

FR10 Île de France

HU10 Közép-Magyarország (Budapest)

IE02 Southern and Eastern

IL Israel

ITC4 Lombardia

LT00 Lietuva

ME Montenegro

MT00 Malta

NO01 Oslo og Akershus

PL63 Pomorskie

PT11 Norte(Porto área)

PT17 Lisboa

RO32 București - Ilfov

SE11 Stockholm

SE23 Västsverige

SI02 Zahodna Slovenija

TR51 Ankara

UKF1 Derbyshire and Nottinghamshire

UKF2 Leicestershire, Rutland and Northamptonshire

Source: JRC/IPTS calculated using the FP7 contracts database-June 2014

Annexes

1. Participation in FP7 cooperation programme

Table 16: Detailed participation figures in FP7 research areas

| | | Latvia | | | FP7 | |
|--|-----------|---------------------|--------------|------------|---------------------|--------------|
| | | EC contrib. (In €M) | Nbr of part. | | EC contrib. (In €M) | Nbr of part. |
| TOTAL FP7 | | 26.05 | 167 | | 27 902.29 | 85 994 |
| Health | | 8.87 | 19 | | 5 515.56 | 12 523 |
| Biotechnology, generic tools and medical technologies for human health | LV | 6.37 | 3 | FP7 | 2 377.05 | 4 377 |
| High-throughput research | LV | 0.00 | 0 | FP7 | 157.93 | 306 |
| Detection, diagnosis and monitoring | LV | 0.00 | 0 | FP7 | 272.30 | 577 |
| Suitability, safety, efficacy of therapies | LV | 0.00 | 0 | FP7 | 117.78 | 204 |
| Innovative therapeutic approaches and interventions | LV | 0.00 | 0 | FP7 | 457.80 | 833 |
| Integrating biological data and processes: large-scale data gathering, systems biology | LV | 0.31 | 2 | FP7 | 647.92 | 1 190 |
| JTI-IMI (Innovative Medicines Initiative) | LV | 6.07 | 1 | FP7 | 723.31 | 1 267 |
| Translating research for human health | LV | 2.30 | 10 | FP7 | 2 356.65 | 5 429 |
| Research on the brain and related diseases, human development and ageing | LV | 0.00 | 0 | FP7 | 518.12 | 1094 |
| Translational research in major infectious diseases: To confront major threats to public health | LV | 1.89 | 7 | FP7 | 764.08 | 1751 |
| Translational research in other major diseases | LV | 0.42 | 3 | FP7 | 1 074.45 | 2584 |
| Optimising the delivery of healthcare to European citizens | LV | 0.12 | 3 | FP7 | 399.06 | 1422 |
| Translating the results of clinical research outcome into clinical practice including better use of medicines, and appropriate use of behavioural and organisational interventions and new health therapies and technologies | LV | 0.00 | 0 | FP7 | 106.73 | 361 |
| Quality, efficiency and solidarity of healthcare systems including transitional health systems | LV | 0.09 | 2 | FP7 | 99.32 | 375 |
| Health promotion and prevention | LV | 0.00 | 0 | FP7 | 81.77 | 323 |
| International public health & health systems | LV | 0.03 | 1 | FP7 | 86.37 | 289 |
| Specific international cooperation actions for health system research | LV | 0.00 | 0 | FP7 | 24.87 | 74 |
| Other Actions across the Health Theme | LV | 0.07 | 3 | FP7 | 382.80 | 1295 |
| Coordination and Support Actions across the Theme | LV | 0.05 | 2 | FP7 | 46.70 | 436 |
| Responding to EU policy needs | LV | 0.03 | 1 | FP7 | 192.51 | 638 |
| Specific International Cooperation Actions (SICA) | LV | 0.00 | 0 | FP7 | 49.36 | 139 |
| Horizontal topics for collaborative projects relevant for the whole of theme health | LV | 0.00 | 0 | FP7 | 94.24 | 82 |
| Food, Agriculture and Fisheries, and Biotechnology | LV | 3.42 | 29 | FP7 | 1 841.70 | 7847 |
| Sustainable production and management of biological resources from land, forest, and aquatic environment | LV | 1.37 | 6 | FP7 | 452.65 | 2164 |
| Increased sustainability of all production systems (agriculture, forestry, fisheries and aquaculture); plant health and crop protection | LV | 1.37 | 6 | FP7 | 326.56 | 1557 |
| Optimised animal health production and welfare across agriculture, fisheries and aquaculture | LV | 0.00 | 0 | FP7 | 126.09 | 607 |

| | | | | | | |
|---|-----------|-------------|-----------|------------|----------|-------|
| Fork to farm: Food (including seafood), health and well being | LV | 0.34 | 6 | FP7 | 571.52 | 2304 |
| The Ocean of Tomorrow | LV | 0.00 | 0 | FP7 | 70.04 | 217 |
| Consumers | LV | 0.06 | 1 | FP7 | 39.78 | 142 |
| Nutrition | LV | 0.02 | 1 | FP7 | 149.25 | 493 |
| Food processing | LV | 0.00 | 0 | FP7 | 127.13 | 590 |
| Food quality and safety | LV | 0.01 | 2 | FP7 | 101.10 | 467 |
| Environmental impacts and total food chain | LV | 0.26 | 2 | FP7 | 84.21 | 395 |
| Life sciences, biotechnology and biochemistry for sustainable non-food products and processes | LV | 1.09 | 6 | FP7 | 564.90 | 1832 |
| Novel sources of biomass and bioproducts | LV | 0.45 | 3 | FP7 | 110.98 | 391 |
| Marine and fresh-water biotechnology (blue biotechnology) | LV | 0.00 | 0 | FP7 | 125.95 | 413 |
| Industrial biotechnology: novel high added-value bio-products and bio-processes | LV | 0.00 | 0 | FP7 | 114.61 | 328 |
| Biorefinery | LV | 0.53 | 1 | FP7 | 78.68 | 227 |
| Environmental biotechnology | LV | 0.00 | 0 | FP7 | 58.30 | 268 |
| Emerging trends in biotechnology | LV | 0.11 | 2 | FP7 | 76.38 | 205 |
| Other activities | LV | 0.61 | 11 | FP7 | 252.64 | 1547 |
| Socio-economic research and support to policies and Cross cutting activities | LV | 0.61 | 11 | FP7 | 252.64 | 1547 |
| Information and Communication Technologies | LV | 4.32 | 29 | FP7 | 7 874.97 | 23202 |
| Pervasive and Trustworthy network and service infrastructures | LV | 0.22 | 2 | FP7 | 1 987.50 | 5557 |
| Cognitive systems, interaction, robotics | LV | 0.88 | 3 | FP7 | 615.93 | 1220 |
| Components, systems, engineering | LV | 0.00 | 0 | FP7 | 810.22 | 2398 |
| Digital libraries and content | LV | 0.65 | 2 | FP7 | 644.08 | 1790 |
| ICT for mobility, environmental sustainability and energy efficiency | LV | 0.00 | 0 | FP7 | 842.77 | 2695 |
| ICT for Health, Ageing Well, Inclusion and Governance | LV | 0.39 | 1 | FP7 | 883.60 | 2650 |
| Future and emerging technologies | LV | 1.68 | 7 | FP7 | 1 466.65 | 3983 |
| Horizontal Actions | LV | 0.17 | 4 | FP7 | 64.38 | 545 |
| ICT for the Enterprise and Manufacturing | LV | 0.00 | 0 | FP7 | 216.75 | 523 |
| ICT for Learning and Access to Cultural Resources | LV | 0.00 | 0 | FP7 | 171.24 | 495 |
| International Cooperation | LV | 0.14 | 1 | FP7 | 36.05 | 307 |
| JTI-ARTEMIS (Embedded Computing Systems) | LV | 0.17 | 9 | FP7 | 135.81 | 1039 |
| Nanosciences, Nanotechnologies, Materials and new Production Technologies - NMP | LV | 2.25 | 18 | FP7 | 3 707.95 | 11548 |
| Nanosciences and Nanotechnologies | LV | 0.16 | 2 | FP7 | 771.56 | 2457 |
| Materials | LV | 0.35 | 4 | FP7 | 742.04 | 2226 |
| New production processes | LV | 0.38 | 2 | FP7 | 490.01 | 1525 |
| Integration of nanotechnologies for industrial applications | LV | 0.31 | 6 | FP7 | 594.25 | 2121 |
| JTI-ENIAC (Nanoelectronics Technologies 2020) | LV | 0.00 | 0 | FP7 | 468.96 | 1349 |
| Recovery Package: Public-Private Partnership (PPP) topics within NMP | LV | 1.05 | 4 | FP7 | 641.14 | 1870 |
| Energy | LV | 1.74 | 16 | FP7 | 2 094.31 | 5422 |

| | | | | | | |
|---|-----------|-------------|-----------|------------|-----------------|-------------|
| Hydrogen and fuel cells | LV | 0.00 | 0 | FP7 | 23.94 | 69 |
| JTI-FCH European Hydrogen and Fuel Cell Technology Platform) | LV | 0.00 | 0 | FP7 | 415.67 | 1186 |
| Renewable electricity generation | LV | 0.03 | 1 | FP7 | 473.52 | 998 |
| Renewable fuel production | LV | 0.10 | 1 | FP7 | 239.19 | 508 |
| Renewables for heating and cooling | LV | 0.00 | 0 | FP7 | 59.28 | 174 |
| CO2 capture and storage technologies for zero emission power generation | LV | 0.29 | 2 | FP7 | 145.80 | 478 |
| Clean coal technologies | LV | 0.00 | 0 | FP7 | 58.13 | 130 |
| Cross-cutting actions between activities Energy-5 and Energy-6 | LV | 0.00 | 0 | FP7 | 27.99 | 84 |
| Smart energy networks | LV | 0.40 | 4 | FP7 | 261.24 | 654 |
| Energy efficiency and savings | LV | 0.48 | 3 | FP7 | 221.38 | 551 |
| Knowledge for energy policy making | LV | 0.07 | 1 | FP7 | 17.82 | 115 |
| Horizontal programme actions | LV | 0.36 | 4 | FP7 | 150.35 | 475 |
| Environment (including Climate Change) | LV | 0.73 | 12 | FP7 | 1 719.15 | 7131 |
| Pressures on environment and climate | LV | 0.00 | 0 | FP7 | 360.13 | 1587 |
| Sustainable management of resources | LV | 0.00 | 0 | FP7 | 276.87 | 1106 |
| Environmental technologies | LV | 0.15 | 2 | FP7 | 290.21 | 1404 |
| Earth observation and assessment tools for sustainable development | LV | 0.36 | 7 | FP7 | 160.60 | 810 |
| Horizontal activities | LV | 0.07 | 2 | FP7 | 16.72 | 152 |
| Coping with climate change | LV | 0.00 | 0 | FP7 | 146.51 | 399 |
| Sustainable use and management of land and seas | LV | 0.00 | 0 | FP7 | 139.29 | 450 |
| Improving resource efficiency | LV | 0.00 | 0 | FP7 | 169.03 | 580 |
| Protecting citizens from environmental hazards | LV | 0.00 | 0 | FP7 | 86.87 | 270 |
| Mobilising environmental knowledge for policy, industry and society | LV | 0.15 | 1 | FP7 | 72.92 | 373 |
| Aeronautics and air transport | LV | 0.51 | 2 | FP7 | 1 004.78 | 3174 |
| Green Aircraft | LV | 0.00 | 0 | FP7 | 295.55 | 827 |
| Time Efficient Air Transport Operations | LV | 0.00 | 0 | FP7 | 40.45 | 108 |
| Aircraft Safety | LV | 0.00 | 0 | FP7 | 150.26 | 401 |
| Aircraft Operational Cost | LV | 0.26 | 1 | FP7 | 385.95 | 1034 |
| Operational Security | LV | 0.00 | 0 | FP7 | 13.48 | 45 |
| Promising Pioneering Ideas in Air Transport | LV | 0.25 | 1 | FP7 | 81.68 | 307 |
| CROSS-CUTTING ACTIVITIES for implementation of the sub-theme programme | LV | 0.00 | 0 | FP7 | 35.41 | 434 |
| JTI-CLEAN SKY (Aeronautics and Air Transport) | LV | 0.00 | 0 | FP7 | 2.00 | 18 |
| Space | LV | 1.01 | 8 | FP7 | 784.60 | 3203 |
| Space-based applications at the service of the European Society | LV | 0.09 | 3 | FP7 | 350.86 | 1245 |
| Research to support space science and exploration | LV | 0.84 | 3 | FP7 | 248.28 | 979 |
| International Cooperation | LV | 0.08 | 2 | FP7 | 109.56 | 400 |
| GALILEO/Exploiting the Full Potential | LV | 0.00 | 0 | FP7 | 48.23 | 386 |
| GALILEO/Adapting Receivers to Requirements and Upgrading Core Technologies | LV | 0.00 | 0 | FP7 | 13.94 | 69 |
| GALILEO/Supporting Infrastructure Evolution | LV | 0.00 | 0 | FP7 | 13.74 | 124 |
| Sustainable surface transport (INCLUDING THE 'EUROPEAN GREEN CARS INITIATIVE') | LV | 0.73 | 8 | FP7 | 1 203.53 | 5255 |

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|---|-----------|-------------|-----------|------------|----------|------|
| Rail | LV | 0.06 | 1 | FP7 | 164.54 | 766 |
| Road | LV | 0.07 | 1 | FP7 | 287.80 | 1051 |
| Urban mobility | LV | 0.00 | 0 | FP7 | 142.53 | 429 |
| Waterborne | LV | 0.17 | 2 | FP7 | 184.66 | 776 |
| Multimodal | LV | 0.27 | 2 | FP7 | 364.33 | 1794 |
| Cross cutting activities | LV | 0.16 | 2 | FP7 | 59.67 | 439 |
| Socio-economic sciences and Humanities | | | | | | |
| Socio-economic sciences and Humanities | LV | 0.82 | 10 | FP7 | 579.55 | 2766 |
| Growth, employment and competitiveness in a knowledge society | LV | 0.00 | 0 | FP7 | 108.37 | 473 |
| Combining economic, social and environmental objectives in a European perspective | LV | 0.00 | 0 | FP7 | 117.69 | 499 |
| Major trends in society and their implications | LV | 0.00 | 0 | FP7 | 93.80 | 485 |
| Europe in the world | LV | 0.05 | 1 | FP7 | 98.91 | 432 |
| The Citizen in the European Union | LV | 0.54 | 5 | FP7 | 92.55 | 397 |
| Socio-economic and scientific indicators | LV | 0.12 | 1 | FP7 | 23.44 | 150 |
| Foresight activities | LV | 0.00 | 0 | FP7 | 15.88 | 105 |
| Horizontal Actions | LV | 0.10 | 3 | FP7 | 28.92 | 225 |
| Security | | | | | | |
| Security | LV | 1.54 | 14 | FP7 | 1 263.49 | 3741 |
| Increasing the Security of citizens | LV | 0.95 | 5 | FP7 | 235.78 | 656 |
| Increasing the Security of infrastructures and utilities | LV | 0.00 | 0 | FP7 | 248.96 | 710 |
| Intelligent surveillance and enhancing border security | LV | 0.37 | 3 | FP7 | 208.72 | 466 |
| Restoring security and safety in case of crisis | LV | 0.00 | 0 | FP7 | 289.53 | 733 |
| Improving Security systems integration, interconnectivity and interoperability | LV | 0.00 | 0 | FP7 | 74.50 | 212 |
| Security and society | LV | 0.03 | 1 | FP7 | 113.39 | 479 |
| Security Research coordination and structuring | LV | 0.20 | 5 | FP7 | 70.01 | 398 |
| Security systems integration, interconnectivity and Interoperability | LV | 0.00 | 0 | FP7 | 21.80 | 83 |
| Horizontal Actions | LV | 0.00 | 0 | FP7 | 0.79 | 4 |

Source: JRC/IPTS calculated using the FP7 contracts database-June 2014