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Regional Report

Innovation Potential and Dominant Emerging Industries

Region of Western Greece

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PREPARED BY: OptionsNet

Other members of the team:

1. Prof. Ioannis Garofalakis, Computer Technology Institute
2. Mr. Andreas Koskeris, Computer Technology Institute
3. Mr. Sotiris Michalopoulos, Computer Technology Institute

Optionsnet, Information Technologies & Consulting
www.optionsnet.gr
email: support@optionsnet.gr
Tel: +30 2610 240085
Kanakari str. 73-75, 26221 Patras, Greece

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Executive Summary

The report on the regional dominant emerging industries provides an analysis of the regional context of each PP region with a focus on the regional innovation potential and the dominant emerging industries.

The main objective of the current report is to analyse the dominant emerging industries in the Region of Western Greece, to present the regional context within those industries are growing and the positioning of the region compared to the whole country and the EU28. The regional context is analysed to major areas like the economy growth, the socioeconomic environment, the structure of the regional economy and the trade balance.

The regional innovation system is also described by presenting the major stakeholders, the human capital characteristics, the labour productivity and the investments for R&D in the region of western Greece.

Since the Smart Specialization Strategy (RIS3) of Region of Western Greece is one of the official document that analyses the regional dominant emerging industries providing analyses of the strengths and weaknesses of the region but also the future opportunities that can reveal through the development of specific industrial areas, it is finally presented in the current report.

Acknowledgement

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Background

The Region of **Western Greece** is one of the 13 regions of Greece and covers the northwestern part of the Peloponnese and western mainland Greece. It occupies an area of 1,336 square kilometers and its population is 679.796 inhabitants (census of 2011). The city of Patras is the capital of the Region. The Region is divided into three Regional Units, Etoloakarnania – Achaia – Ilia, which include 19 municipalities.

Map of Western Greece Region

Western Greece (Dytiki Ellada) according to the European Innovation Scoreboard (EIS) Regional Framework 2017, is considered as a Moderate Innovator, and its innovation performance has increased over time. The regional GDP per capital is significantly lower than the National and EU values, reaching the 74.7 % and 52.5 % respectively. The percentage of the people that employed in Agricultural and Mining Sector in RWG is quite higher than the National and EU values (180% higher than Greece and almost 500% higher than EU28 average value). The Services sector concentrates the higher percent of the employees equal to the 54.4%, modest lower than GR average (62.1 %) and EU28 (63.2 %).

In the next figure a comparison analysis of several factors of RWG in comparison with the whole country (GR) and EU28 values is presented:

The very low R&D expenditures in public but also in business sector, the absence of design application and the small number of trademark applications characterise the profile of the Region and the efforts that should be given towards this direction. On the contrary, the RWG presents quite sufficient performance in the field of the collaboration of innovative SMEs and SME's that innovating in-house.

Methodology

The core methodology used in developing the Regional studies for identification of the dominant emerging industries comes from the **EIS Regional 2017 Framework**.

The analysis is based on the use of secondary data coming from officially recognised institutions, predominantly from Eurostat, National statistical offices and other national and international institutions. More specifically, the databases of the **Hellenic Statistical Authority** (www.statistics.gr) and the **Eurostat** (www.eurostat.gr) have been used as the main reference sources for secondary data.
The official **Smart Specialization Strategy (RIS3 - Region of Western Greece)** has been also studied as a main source of reference for the identification of the dominant industry and the exploitation of data related with the region.

Regional Context

Economy and Growth of the XX Region

- GDP growth rates (20xx – latest year);

GDP Growth Rates in Western Greece from 2001 to 2015 - Greece	
Year	**Percentage**
2001	5,3%
2002	6,4%
2003	7,1%
2004	7,0%
2005	2,5%
2006	10,0%
2007	5,2%
2008	1,2%
2009	-4,8%
2010	-2,2%
2011	-10,6%
2012	-6,5%
2013	-6,8%
2014	-0,2%
2015	-0,3%

A steady increase in the percentage of GDP in Western Greece from 2001 to 2006 is observed, with the highest rate of 10% in the same financial year (2006). Since 2006, the growth rate of GDP has fallen significantly to 1,2% in the financial year of 2008, but from to 2009 the GDP begins reaching rates of the negative scale till 2015, where the largest decrease is observed in 2011 and by -10.6%. Finally, a slight increase occurs again in 2014, still remaining on the negative scale, with a figure of -0.2%.

Source: http://www.statistics.gr/ 2001-2014
Source: http://ec.europa.eu/eurostat 2015

- Structure of the Economy
  Describe the structure of the economy
  Composition of employment, %-shares,
  - Agriculture & Mining (NACE A-B)
  - Manufacturing (NACE C)

Year	Agriculture	Mining and manufacturing	Total Employment	Percent Share - Agriculture	Percent Share - Manufacturing	Total Percent Shares
2000	84447	20638	268954	31,4%	7,7%	39,1%
2001	81180	20690	269090	30,2%	7,7%	37,9%
2002	76471	20932	269023	28,4%	7,8%	36,2%
2003	68830	21275	267280	25,8%	8,0%	33,7%
2004	60810	20974	261157	23,3%	8,0%	31,3%
2005	59276	21652	266462	22,2%	8,1%	30,4%
2006	58902	21671	275641	21,4%	7,9%	29,2%
2007	55672	21947	283942	19,6%	7,7%	27,3%
2008	54864	22445	283637	19,3%	7,9%	27,3%
2009	59109	22299	279399	21,2%	8,0%	29,1%
2010	56615	20608	274607	20,6%	7,5%	28,1%
2011	51500	19098	256544	20,1%	7,4%	27,5%
2012	55228	18331	238692	23,1%	7,7%	30,8%
2013	52867	17207	228458	23,1%	7,5%	30,7%
2014	50926	17044	227232	22,4%	7,5%	29,9%

Source: http://www.statistics.gr/

Observing the employment statistics of the sectors of agriculture, mining and industrialization we analyze the results:

1. In the agricultural sector, from 2000 to 2008, the proportion of people observed a steady decline from 31.4% in 2000 to 19.3% in 2008. From this year to 2014 the rate is rising steadily, reaching its peak in 2014 with 22.4%.

   In the mining and manufacturing sector, from 2000 to 2005, the percentage increases from 7,7% to 8,1%, in 2006 and 2007 it is reduced to 7,9% and 7,7% respectively, the years 2008 and 2009 the rate is again rising to 7.9% and 8% respectively, while by 2014 the rate is systematically reduced to 7.4%, with the only exception in 2012 where there is an increase of 7.7 %.

- Trade balance (exports and imports) and dominant industries in the export structure;

Due to the lack of data in regional level, the national figures of Greece are presented in the next table:

Trade Balance in Greece	
Year	**Percentage**
2006	-42,87%
2007	-54,95%
2008	-66,20%
2009	-48,98%
2010	-38,96%
2011	-33,66%
2012	-27,89%
2013	-26,17%
2014	-28,17%
2015	-19,62%
2016	-20,46%

Source: http://www.statistics.gr/
Source: http://ec.europa.eu/eurostat

Socio-demographic environment

- *GDP per capita, PPS, (last year of its availability)*

GDP per capita, PPS	
Year	**Percentage**
2001	7,6%
2002	9,3%
2003	10,7%
2004	10,5%
2005	4,0%
2006	14,7%
2007	7,7%
2008	2,0%
2009	-6,7%
2010	-2,9%
2011	-14,9%
2012	-8,7%
2013	-9,0%
2014	0,5%
2015	0,2%

Source: http://www.statistics.gr/

- *Population size by age, gender and education,*

Region / Gender & Age groups	Population Size						
	2010	2011	2012	2013	2014	2015	2016
Region of Western Greece	**692.269**	**690.904**	**687.935**	**682.583**	**677.727**	**673.263**	**668.258**
0-9	67.996	67.832	67.592	66.724	65.745	64.382	63.094
10-19	76.855	74.959	73.614	72.002	71.889	71.303	70.903
20-29	93.611	91.603	89.011	86.012	82.446	80.252	78.140
30-39	97.613	96.744	95.605	94.179	92.713	90.685	88.233
40-49	95.176	96.049	96.516	96.600	96.596	96.819	96.706
50-59	84.366	85.343	86.127	86.781	87.357	87.676	87.796
60-69	69.937	70.971	72.434	73.970	75.331	76.621	77.614
70-79	66.981	66.376	64.886	63.090	61.533	60.484	60.080
80+	37.857	39.036	40.439	41.611	43.115	44.525	45.485
Male	**344.813**	**343.781**	**341.867**	**338.648**	**335.545**	**332.845**	**329.983**
0-9	34.961	34.857	34.756	34.443	34.004	33.324	32.679
10-19	40.167	39.277	38.501	37.630	37.291	36.795	36.496
20-29	49.071	47.620	45.875	43.945	41.713	40.232	38.928
30-39	50.285	49.918	49.379	48.624	47.843	46.876	45.630
40-49	48.041	48.460	48.669	48.684	48.711	48.776	48.615
50-59	42.973	43.386	43.619	43.694	43.686	43.597	43.414
60-69	33.990	34.653	35.447	36.235	36.964	37.676	38.262
70-79	30.216	29.805	29.067	28.167	27.339	26.914	26.865
80+	15.109	15.805	16.554	17.226	17.994	18.655	19.094
Female	**347.456**	**347.123**	**346.068**	**343.935**	**342.182**	**340.418**	**338.275**
0-9	33.035	32.975	32.836	32.281	31.741	31.058	30.415
10-19	38.565	37.673	36.824	35.986	35.600	35.024	34.614
20-29	44.540	43.983	43.136	42.067	40.733	40.020	39.212
30-39	47.328	46.826	46.226	45.555	44.870	43.809	42.603
40-49	47.135	47.589	47.847	47.916	47.885	48.043	48.091
50-59	41.393	41.957	42.508	43.087	43.671	44.079	44.382
60-69	35.947	36.318	36.987	37.735	38.367	38.945	39.352
70-79	36.765	36.571	35.819	34.923	34.194	33.570	33.215
80+	22.748	23.231	23.885	24.385	25.121	25.870	26.391

Source: http://ec.europa.eu/

Region / Gender & Age groups	Education Level						
	2010	2011	2012	2013	2014	2015	2016
Region of Western Greece							
ISCED 0-2	46,5%	44,8%	44,9%	43,6%	40,7%	39,6%	38,8%
ISCED 3-4	33,3%	34,3%	34,5%	34,8%	36,7%	37,5%	38,4%
ISCED 5 and up	20,2%	20,9%	20,6%	21,6%	22,6%	22,9%	22,7%
Male							
ISCED 0-2	49,0%	48,2%	47,9%	45,8%	41,8%	40,8%	41,2%
ISCED 3-4	30,9%	31,4%	33,1%	32,9%	35,4%	37,8%	38,6%
ISCED 5 and up	20,0%	20,4%	19,0%	21,3%	22,8%	21,4%	20,2%
Female							
ISCED 0-2	43,8%	41,3%	41,8%	41,3%	39,6%	38,4%	36,4%
ISCED 3-4	35,8%	37,2%	35,9%	36,8%	38,1%	37,1%	38,2%
ISCED 5 and up	20,4%	21,4%	22,3%	21,9%	22,4%	24,4%	25,4%

Source: http://ec.europa.eu/

- *Population density,*

Dytiki Ellada Year	Population Density (persons per km2)
2010	62,5
2011	60,9
2012	60,5
2013	60
2014	59,6
2015	59,2

Source: http://ec.europa.eu/eurostat

- *Degree of urbanisation (%).*

The Average age by **urban** and rural areas in western Greece is 39.6 urban and 45.3 rural.
Source: http://www.statistics.gr/

Please also include in your analysis the following:

- Active labour force by age, gender, educational background and employment status - from 2010 - till 2017;

Year	Active Labour Force				Gender	
	Total Number	Activity Rate	Employment Rate	Unemployment Rate	Male	Female
2010	297.800	50,70%	62,20%	11,90%	180.600	116.700
2011	289.800	49,70%	57,60%	17,60%	174.800	114.900
2012	284.500	49,30%	52,50%	25,60%	168.100	116.400
2013	282.900	49,20%	50,30%	28,40%	166.400	116.500
2014	281.900	49,10%	49,70%	28,70%	164.100	117.800
2015	288.300	50,60%	51,40%	28,50%	163.500	124.700
2016	292.800	51,20%	51,00%	29,80%	166.500	126.200

Year	Active Labour Force - Education		
	ISCED 0-2	ISCED 3-4	ISCED 5 and up
2010	124.300	105.000	68.000
2011	115.800	105.000	68.900
2012	112.300	105.100	67.000
2013	106.800	104.900	71.300
2014	100.800	110.700	70.400
2015	100.100	116.800	71.200
2016	101.100	119.300	72.300

Source: http://ec.europa.eu/eurostat

- Emigration trends if available – it is a challenge for the region, while the ones who leave the region are always the most educated ones.

Region / Gender and Age Groups	Total	Region of Eastern Macedonia and Thrace	Region of Central Macedonia	Region of Western Macedonia	Region of Epirus	Region of Thessaly	Region of Central Greece	Region of Ionian Islands	Region of Central Greece	Region of Peloponnese	Region of Attica	Region of the North Aegean	Region of the South Aegean	Region of Crete	Foreign Country	Percent - Foreign Country
Region of Western Greece	**673.510**	**190**	**516**	**122**	**601**	**385**	**438**	**437**	**659.669**	**840**	**5.897**	**206**	**277**	**398**	**3.534**	**0,52%**
1-14	94.294	18	51	5	44	31	19	24	93.151	35	508	17	23	34	334	**0,35%**
15-24	84.976	90	210	63	286	185	253	200	80.144	463	1.747	99	88	210	938	**1,10%**
25-34	92.019	55	148	37	144	81	74	103	88.440	169	1.473	53	95	107	1.040	**1,13%**
35-44	96.919	15	60	8	63	48	28	48	95.380	85	693	20	47	24	400	**0,41%**
45-54	90.345	5	16	1	22	11	15	25	89.467	28	465	3	13	8	266	**0,29%**
55-64	80.187	2	16	5	12	9	19	14	79.247	20	554	2	2	8	277	**0,35%**
65+	134.770	5	15	3	30	20	30	23	133.840	40	457	12	9	7	279	**0,21%**
Male	**336.115**	**94**	**232**	**53**	**244**	**180**	**220**	**217**	**328.985**	**370**	**3.034**	**99**	**141**	**189**	**2.057**	**0,61%**
1-14	48.484	9	23	4	24	14	7	14	47.906	16	258	10	14	21	164	**0,34%**
15-24	43.729	44	87	30	105	96	137	109	41.321	206	876	47	34	92	545	**1,25%**
25-34	48.126	31	72	11	66	32	37	43	46.205	67	752	25	50	51	684	**1,42%**
35-44	49.663	5	24	4	23	23	14	22	48.838	38	381	10	29	15	237	**0,48%**
45-54	45.680	3	10	1	8	6	4	11	45.242	13	233	2	6	3	138	**0,30%**
55-64	40.489	0	9	2	6	3	10	10	40.006	11	290	0	2	2	138	**0,34%**
65+	59.944	2	7	1	12	6	11	8	59.467	19	244	5	6	5	151	**0,25%**
Female	**337.395**	**96**	**284**	**69**	**357**	**205**	**218**	**220**	**330.684**	**470**	**2.863**	**107**	**136**	**209**	**1.477**	**0,44%**
1-14	45.810	9	28	1	20	17	12	10	45.245	19	250	7	9	13	170	**0,37%**
15-24	41.247	46	123	33	181	89	116	91	38.823	257	871	52	54	118	393	**0,95%**
25-34	43.893	24	76	26	78	49	37	60	42.235	102	721	28	45	56	356	**0,81%**
35-44	47.256	10	36	4	40	25	14	26	46.542	47	312	10	18	9	163	**0,34%**
45-54	44.665	2	6	0	14	5	11	14	44.225	15	232	1	7	5	128	**0,29%**
55-64	39.698	2	7	3	6	6	9	4	39.241	9	264	2	0	6	139	**0,35%**
65+	74.826	3	8	2	18	14	19	15	74.373	21	213	7	3	2	128	**0,17%**

Source: http://www.statistics.gr/

Structure of the Private sector

The innovative activities in the country will depend on the structure of its private sector and its R&D activities. FDIs presence should also be noted in the analysis due to their role in technology and knowledge transfer. The analysis should look into the following trends:

- Structure of the Private sector:
  - Composition of (total number and share (%))
    - Micro enterprises (0-9 employees);
    - SMEs (10-249 employees);
    - Large enterprises (250+ employees);
- Share of foreign controlled enterprises (%)

Innovation Environment and Performance

Description of the Regional Innovation system

Mapping of the innovation eco-system i.e. important stakeholders - supporting the innovation capacity of the region;

Innovation, creating and commercializing new knowledge, fostering enterprise and improving our infrastructure and skills base are key to the competitiveness of Region of Western Greece

Region of Western Greece (RWG) or “Dytiki Ellada” in Greek spelling has a population of 680 thousands (6,3% of national), decreased by 61 thousands since year 2001.

RWG is the second poorest region of Greece with a GDP of almost 70% of the National one and 62 % of the mean European (EE 27). The regional GDP declined dramatically during the last 5 years of economic crisis of about 10% since 2008.

The level of R&D spending in RWG for 2012 is very low (about 0,68% of regional GDP) being among the lowest in Europe. The statistical data indicates that R&D spending in RWG is concentrated in a small number of companies which invest heavily, while the much larger number of companies are investing well below the local average.

A Regional innovation strategy is currently builing in RWG on a four broad “stakeholder” groups: a) the private sector, b) the research and academical sector, c) the Regional government, d) the society sector. It focuses on supporting and development talented people that can thrive and work effectively together. The target is to develop business processes to be fast, flexible and focused on the needs of the businesses that RWG can support and to ensure that regional strategy remains highly effective. All of the above will be realized through:

- The development of innovation platforms and programmes across areas where regional authorities actions and/or societal challenges will create business opportunities for regional companies
- Ensure that the roles of policy, standards, regulation and financial incentives are considered in the design of our thematic programmes and strategies
- Help unlock the innovation potential of regional stakeholders by developing other support structures and programmes

Each of the four broad “stakeholder” groups has a specific challenge to address. Statistics and surveys proved that RWG has important weaknesses such as low investments on R+D from local enterprises, low innovation absorption from local enterprises, employees with moderate level of education and weak regional system for innovation and technology reinforcement. However it has some important strengths such as important Primary Sector, direct Research investments in microelectronics (SAMSUNG, CITRIX), strong research pole and Infrastructure for new and innovative business (Patras Science Park, Corallia Innohub), etc.

RWG is however a small region and cannot afford to fund research in all fields of science and innovation activity in all areas of the economy.

Additional, RWG is the first region that established a governance body dedicated for the regional innovation policy. The body is consisted of members from elected regional council, the academia and research sector, the industry and business sector and regional technical education. Basic roles of the governance body is to:

- Perform the strategy specialization with the collaborative working and partnership of all regional stakeholders (research and academia, business and industry sector, regional government and society partners)
- Monitor the strategy implementation through a system of indicators
- Results evaluation and benchmarking analysis in relation with other regions
- Make corrective actions to adjust its strategy and avoid "locking" on inefficient specialization options

Human Capital and R&D activities in the region

Please describe the structure of the territory education in the region i.e. Universities, research centres and similar.

The Region of Western Greece (RWG) or “Dytiki Ellada” in Greek spelling, is one of the most important regions of the country in the research activity as it is characterized by the existence of a significant number of research and educational infrastructures. However, the sector does not have the expected effectiveness, based on the developed infrastructure and spending on Research and Innovation in the Region, and is ranked among the Modest Innovators according to the Regional Innovation Scorecard (RIS 2012), together with all the other Greek regions except Attica.

At the level of infrastructures in the RWG (following the implementation of the new Academic Charter of the country) there are **3 state Academical institutions** of which two are Universities (University of Patras, Hellenic Open University) and one of Technological Sector of Higher Education (TEI of Western Greece). There is also the Patras Science Park and **3 Research Institutes** active in new technologies in the fields of ICT, Chemical Engineering and New Technologies in Industry: Computer Technology Institute and Press "Diophantus" (CTI), Institute of Industrial Systems (ISI) and the Institute of Chemical Engineering Sciences (ICE-HT). They carry out some genuinely world class research and development work and have made remarkable steps towards interacting with industry in a commercially focused way, with an increasing number of spin offs companies resulting and established in Patras Science Park and CORALLIA Cluster Initiative.

1. Available human resources
    - Population aged 30-34 with tertiary education

RWG is lagging behind in a critical mass of highly educated human resources, who are in the productive age of 30-34 years.

Specifically, the population aged 30-34 years of the RWG who are tertiary graduates, as a percentage of the total population of the Region of the respective age, is 26.7%, far from the target of 40% of the E2020 strategy.

- Lifelong learning

There is a low participation rate in lifelong learning, with only 1.8% of adults (25-64 years old) in the RWG taking part in Lifelong learning, when the corresponding rate at country level is 2.9% and at EU27 level at 9 %. Indeed, the percentage of young people who do not work or participate in any education or training program ("NEET people") has increased in the RWG in recent years, amid the deterioration of the labor market. The NEET of the RWG stood at 25.5% in 2012 compared to 17.9% in 2008 - an increase of 7.6 percentage points compared with an increase of 12.5 percentage points in the country and 3.1 percentage points in the EU-27 during the same period. Regardless of the growth observed, RWG has the 3rd best performance among the regions of the country.

2. Attractive research systems
    - International scientific co-publications

The number of scientific publications in international journals, for the location of RWG to which the author belongs, according to the Web of Science database is 5360.

The reports that correspond to the specific publications are 25220.

- Top 10% most cited publications

There is no sufficient data for this area.

Sources:

- *Operational Programme 'Western Greece 2014-2020',*
- *National Documentation Centre (EKT) of Greece http://www.ekt.gr,*
- *Series of EKT bibliometric studies,*
- *,Innovation Strategy of Region of Western Greece.*

Regional investments in R&D

1. Finance and support
   - R&D expenditure in the public sector;

2. Firm investments
   - R&D expenditure in the business sector
   - Non-R&D innovation expenditures for SMEs only;

In Greece, according to the official provisional data of the National Documentation Centre, in 2013 the total R&D Expenditure amounted to 1,465.7 million Euros. R&D expenditures for 2016 amounted to 1,733.1 million euros. The ‘R&D Intensity’ indicator, which represents R&D expenditure as a percentage of GDP, was 0.99% for 2016.

Region of Western Greece (RWG) or “Dytiki Ellada” in Greek spelling, is a Moderate Innovator, and innovation performance has increased over time. The total and the distribution of R&D Expenditure by sector of performance was:

Total R&D Expenditure (in million Euros) in **RWG**, for 2013: 79.72m

- GOV: Government Sector: 16.16m
- HES: Higher Education Sector: 51.13m
- BES: Business Sector: 12.39m
- PNP: Private Non Profit Sector: 0.04m

In the **RWG** funds from abroad consist an important source of funds. Across all sectors, funding from abroad stands above 18%, a substantial portion of the overall R&D Expenditure, yet this stands as remarkably high in the case of the BES and the PNP sector reaching nearly 60%.

Sources: National Documentation Centre (EKT) of Greece “The regional dimension of knowledge-intensive activities in Greece - Overview 2015”.

Regional Innovation activities

1. Innovators
   - SMEs with product or process innovations
   - SMEs with marketing or organisational innovations
   - SMEs innovating in-house

Among the four types of innovation (product, process, organizational and marketing innovation), the last two types are found to be the dominant in Greek enterprises across all regions.

- Product and/or process innovative entreprises in RWG, 2010-2012 (% of all entreprises in each region): 22.28%. In the total of RWG: 40.80%
- Organisation and/or marketing innovative entreprises in RWG, 2010- 2012 (% of all entreprises in each region): 35.30%. In the total of RWG: 59.20%
- SMEs innovating in-house: No Data

2. Linkages
    - Innovative SMEs collaborating with others

An important indicator of the international orientation of innovative enterprises is the collaborations established for carrying out product and/or process innovation activities.

The percentage of enterprises collaborating with others for RWG is 11.80%. The national average (13.1%) is above the EU28 average (11.3%).

- Public-private co-publications

No Data available

Source: Regional EU Innovation Scoreboard, or Eurostat (Community Innovation Survey). *In case Eurostat does not have data about the corresponding region please use CIS data from National Statistical Office.*

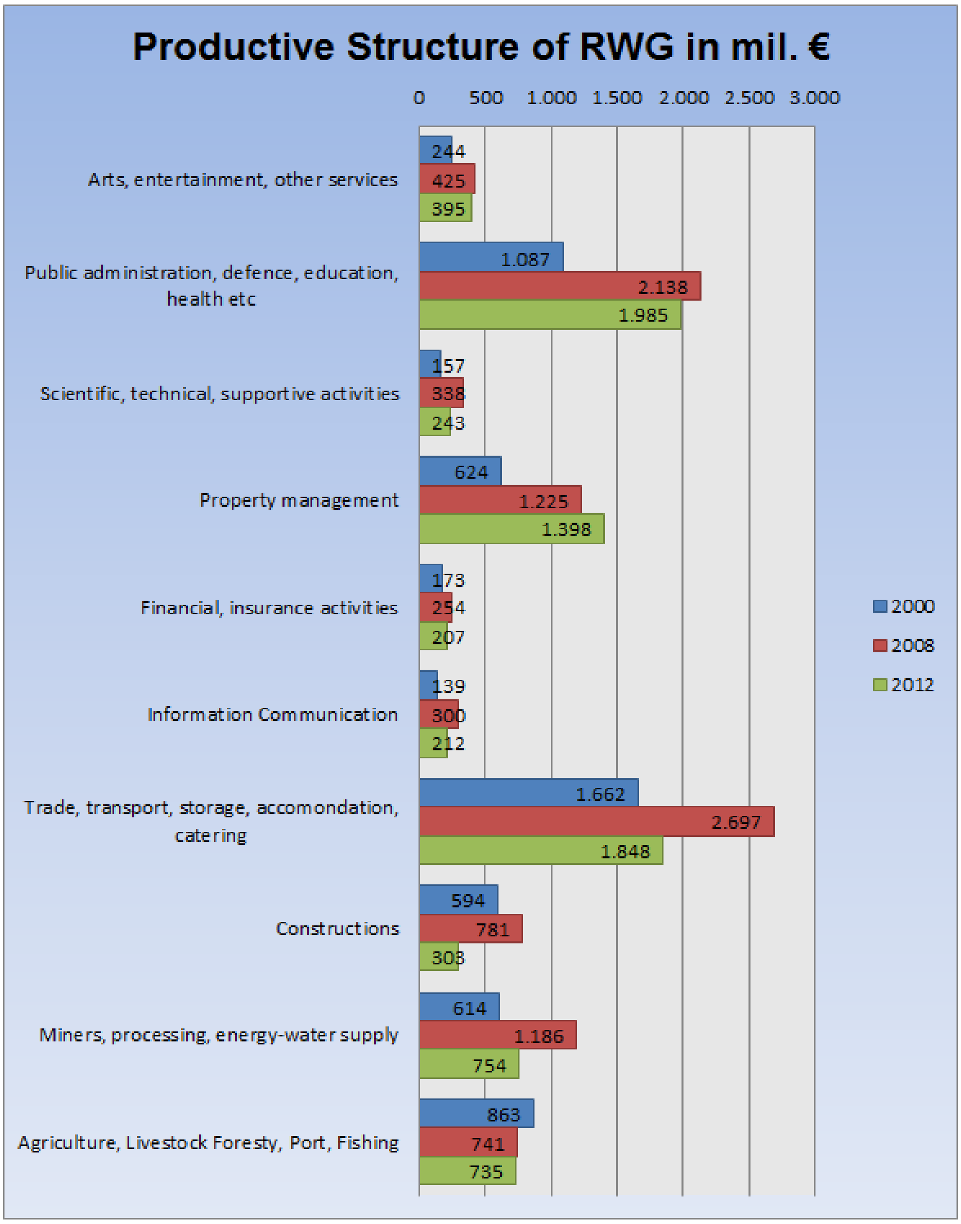
3. Intellectual assets (if available – please request data from the available institutions)
    - EPO patent applications
    - Trademark applications
    - Design applications

Dominant Emerging Industries

Definition for a dominant emerging industry is an industry, or industry sectors which are absorbing the highest percentage of resources in the region mainly focused on employment and generating the largest exports.

A. REGIONAL GROSS VALUE

The involvement of various sectors in the formation of regional gross value added according to ELSTAT's latest available data is as follows:



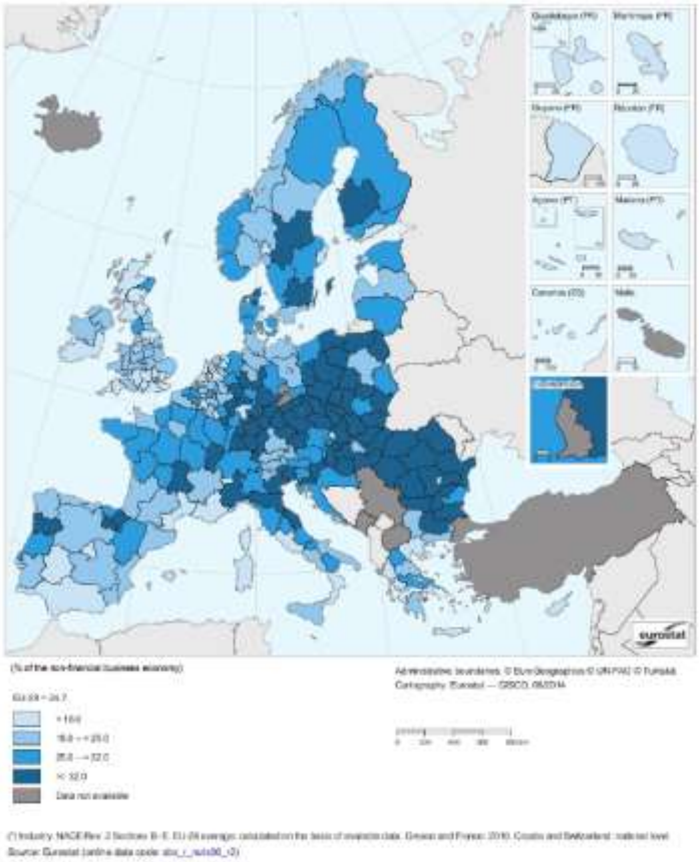
The Sectors with the higher numbers are:

- Public Administration and Education
- Real Estate (NACE 70)
- Wholesale and retail trade, Repair of motor vehicles, transports, logistics.

The Agricultural Sector is the main development area of the Region. According to recent KEPE data, the Region of Western Greece is in the top three of the Regions of the country and 9th (among 272 regions) in the field of agriculture in the agricultural sector (Agriculture, Livestock, Fisheries, Forestry). Employment in the primary sector since 2009 (21,80%) and then shows a continuous increase to reach 26,10% in 2013. However, the Agricultural Sector is not only the Primary, but also the Secondary (Manufacturing and Agricultural Producers) and the Tertiary (Trade, Transport, Rural Faith). Therefore, looking at employment across the agricultural sector, we see that for the entire Region it exceeds 50%, while for the Rural Regional Units of Aitoloakarnania and Ilia the employment rate exceeds 80%.

B. LABOR INFORMATION

Outside AgroEconomy, the figure below shows the percentage of those employed in the industry on the total number of employees in the non-financial economy. As a result, Western Greece is in the category of the least industrialized regions.



With the latest update to value-added value by industry in 2011, the annual regional breakdowns of 2009-11 recorded for Greece by the Eurostat (Eurostat) 33 shows that high productivity of work is reported by the sector of information- communication. (The same is true for the rest of the country.)

At the same time, Western Greece has moderate productivity in the financial-insurance industry, the secondary sector (excluding construction), public services, the arts-entertainment and other services sector and lower productivity in other sectors.

As far as inputs are concerned, developments in fluctuations in capital and labor, as well as value added created between 2005 and 2011 it is noted that the soil factor is generally considered to be constant, while there are no corresponding measurements for entrepreneurship or technology. However, to the extent that in 2006 in property management, public administration, etc., as well as in the arts-entertainment-other services, in 2007 in manufacturing and manufacturing, in 2008 in manufacturing, etc., in 2010 in information-communication, in scientific and related services, as well as in the public administration:

- Changes in gross value added were negative, while
- Changes in capital and employment were positive,

Table. Average labor productivity in Greece during the period 2009-2011

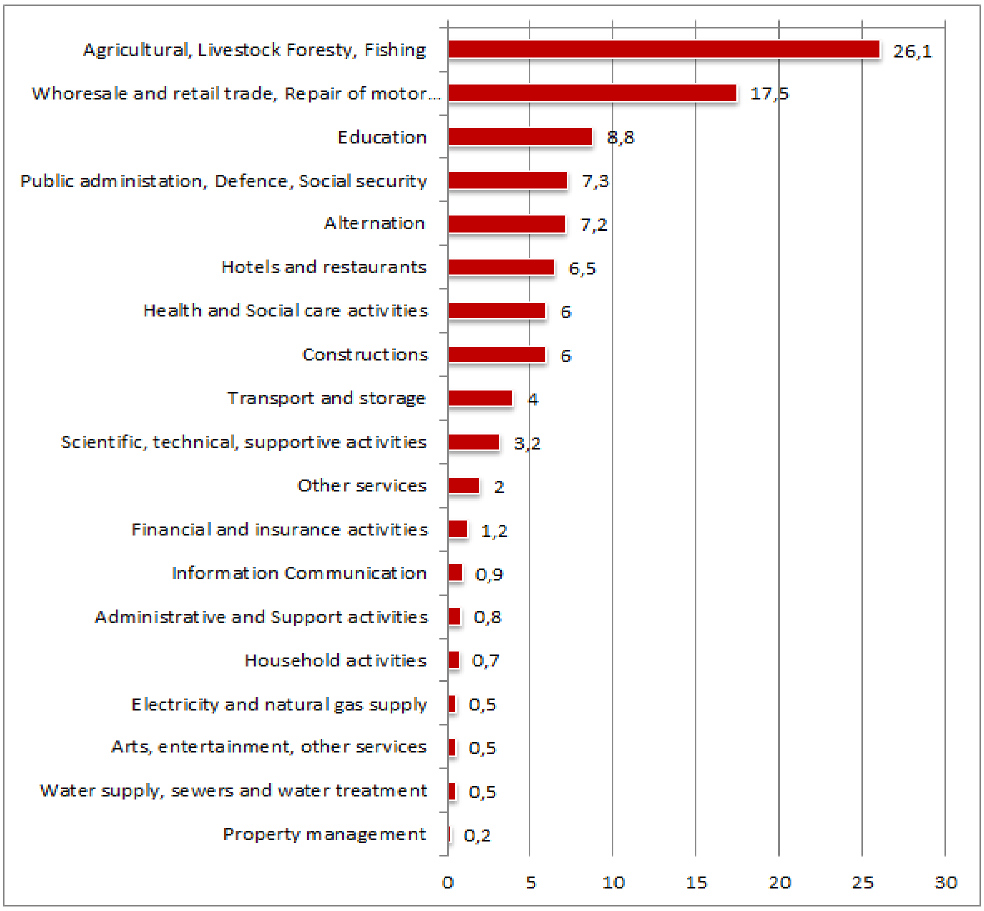
SECTORAL CATEGORY	***Amount (in thousands Euros)***	**Ranking among the 13 regions of the country**
Information Communication (NACE 64)	128,2	5
Financial, insurance activities (NACE 66)	60,9	13
Mines, processing, energy-water supply	35,7	6
Public administration, defense, education, health, etc.	34,5	7
Arts, entertainment, other services	28,8	7
Trade, transport, storage, accommodation, catering	24,5	12
Constructions	19,8	11
Scientific, technical, supportive activities (NACE 73)	19,7	13
Agriculture, Livestock Forestry, Port, Fishing	11,6	8
Property management (NACE 70)	insufficient data	3

- Employment in MHT manufacturing/ knowledge-intensive activities

Number of employed persons in the medium-high and high tech manufacturing sectors include Chemicals (NACE24), Machinery (NACE29), Office equipment (NACE30), Electrical equipment (NACE31), Telecommunications and related equipment (NACE32), Precision instruments (NACE33), Automobiles (NACE34) and Aerospace and other transport (NACE35).

Number of employed persons in the knowledge-intensive services sectors include Water transport (NACE 61), Air transport (NACE 62), Post and telecommunications (NACE64), Financial intermediation (NACE 65), Insurance and pension funding (NACE 66), Activities auxiliary to financial intermediation (NACE 67), Real estate activities (NACE 70), Renting of machinery and equipment (NACE 71), Computer and related activities (NACE72), Research and development (NACE73), and Other business activities (NACE 74).

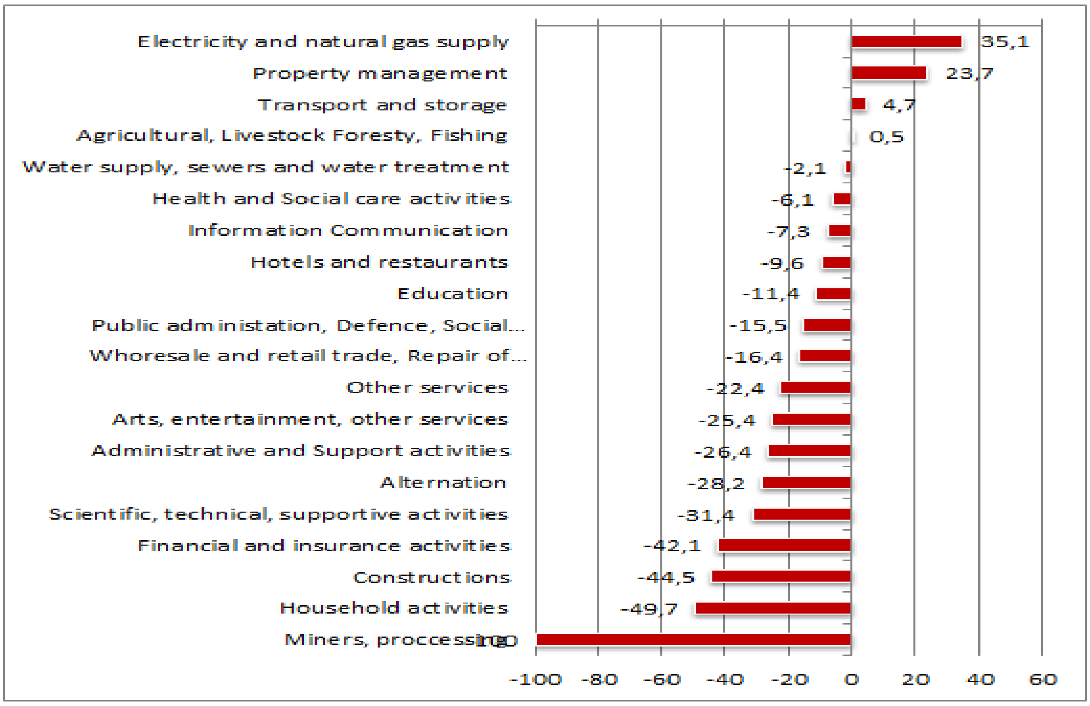
The Structure of employment by sector of economic activity in the Western Greece Region, 2012, was as follows:



The dominant industries in terms of employment share were:

- Agriculture, Livestock Forestry, Fishing
- Wholesale and retail trade, Repair of motor vehicles
- Education
- Public administration, Social security

However the changes in employment by sector of economic activity in the Region of Western Greece, 2010-2012, were as follows:

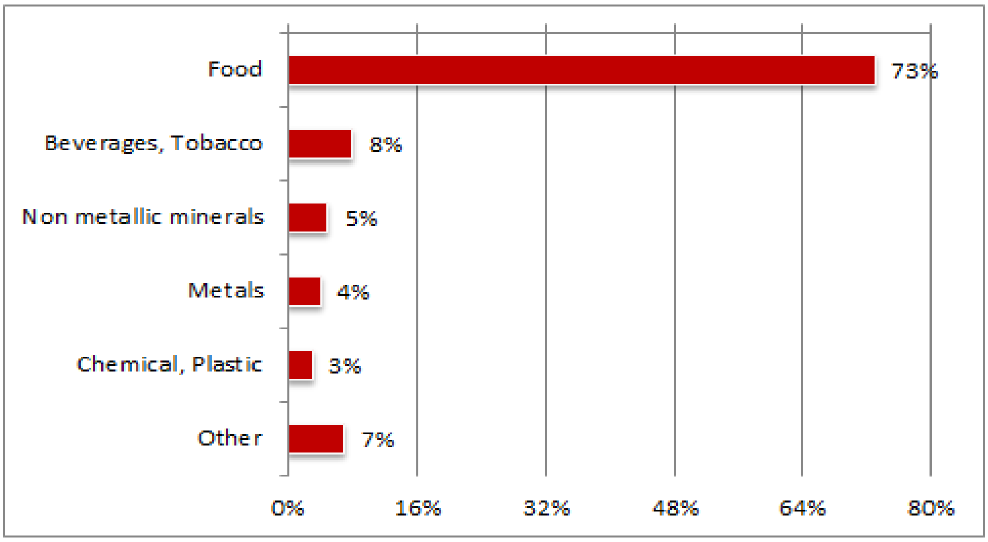


The three industries with positive changes were:

- Provision of electric power, natural gas
- Real estate activities (NACE 70)
- Transport and Logistics

C. EXPORTS

The main export sectors of the RWG IN 2012 were as follows:



The best ones were: Food, Beverages and Tobacco.

D. TURNOVER

The businesses and their turnover by industry were as follows:

Sector N.	Sector	Western Greece		Country	
		Number of Enterprises	Turnover (mln eur)	Number of Enterprises	Turnover (mln eur)
A	Agricultural, Livestock Foresty, Fishing	1.390	137,9	25.131	3.244,9
B	Mining	35	9,2	1.044	934,1
C	Alternation	4.271	1.242,2	85.391	77.408,6
D	Electricity and natural gas supply	201	2,5	4.210	18.002,1
E	Water supply, sewers and water treatment	100	48,7	2.068	1.613,1
F	Whoresale and retail trade, Repair of motor vehicles	17.752	5.110,1	311.099	159.559,6
G	Transport and storage	2.364	421,4	42.809	15.750,0
H	Hotels and restaurants	6.255	407,3	108.902	11.716,0
I	Information Communication	724	56,5	20.470	15.537,1
J	Financial and insurance activities	253	33,7	4.922	41.321,8
K	Property management	242	19,0	9.289	1.362,6
L	Scientific, technical, supportive activities	4.963	258,4	123.193	1.362,6
M	Administrative and Support activities	1.012	48,7	27.150	12.171,3
N	Public administation, Defence, Social security	53	16,3	1.350	6.461,3
O	Education	338	24,5	7.318	490,1
P	Health and Social care activities	148	11,4	4.318	628,6
Q	Arts, entertainment, other services	507	22,0	15.830	1.199,4
R	Other services	1.929	73,3	38.314	7.596,1
S	Constructions	7.803	627,0	128.566	1.990,6
T	Household activities	1	0,0	8	0,0
	Undifined	480	7,8	6.484	130,2
	Total	**50.821**	**8.578,0**	**967.856**	**397.982,7**

The dominant ones In terms of number of enterprises were:

- Wholesale and retail trade, Repair of motor vehicles, transports, logistics
- Constructions
- Hotels and restaurants / coffee
- Scientific, technical, supportive activities (NACE 73)

The best ones in terms of turnover were:

- Wholesale and retail trade, Repair of motor vehicles, transports, logistics
- Processing
- Constructions
- Transport and Logistics

E. RIS3 STRATEGY

Strengths and Weaknesses

STRENGTHS

- Tourist and cultural resources, with Olympia being the world's leading player. Patras as the Western Gate of the Country. Connection of Rio – Antirio with the bridge.
- Existence of innovative Universities and Research Institutes
- Rich water potential.
- Environmental resources protected by international conventions (NATURA, RAMSAR).
- Strong and multidimensional production base in the primary sector
- Higher percentage of students at all levels of education as a percentage of the total population

WEAKNESSES

- Low per capita GDP.
- Spatial districts Region Low productivity of the primary sector with well-known structural problems
- Low employment rates and high unemployment rates.
- Low rates in computer use, Internet use rate and eGovernment services offered by Public Services to citizens and businesses
- Insufficient diffusion of the results of research programs into the production process.
- Inter-regional inequalities in high technology, information and communication infrastructure.
- Lack of organized landfills and waste management infrastructure.
- Lack of a full political airport, closed motorways and a modern railway network
- Lack of a natural gas network.
- Difficult accessibility of mountainous areas.
- Industrial disruption
- Seasonally increased unemployment and underemployment due to engaging in agriculture and tourism.
- Lack of integrated urban design
- Incorporation of tourist stream
- Lack of modern and unified operational infrastructure of the Region of Western Greece and inadequate connection with the real needs of the education and training offered to the employees of the PWD
- Very low percentage of farmers with training

Conclusions and Recommendations

The innovative performance of the Region of Western Greece, compared to the corresponding performance at national and European level, is reflected in the Regional Innovation Indexes of the region as they emerge from the Innovation Union Scoreboard and the Regional Innovation Scoreboard and other scientific papers of Greek and international organizations for similar issues.

The Region of Western Greece is one of the most important regions of the country in the production of research activity as it is characterized by the existence of a significant number of research and educational institutions and infrastructures. However, the sector does not have the expected effectiveness, based on the developed infrastructure and spending on Research and Innovation in the region, and is therefore ranked in the **Moderate Innovators group** according to the Regional Innovation Scorecard (RIS 2014), together with all the other Greek regions.

The Region of Western Greece based on the above findings and a specialised methodology, has proceed to identify its dominant industries within it's RIS3 strategy.

These identified industries are as follows:

1. Agricultural Production - Aquaculture and Food

For the Region of Western Greece, the sectors / products of focusing on the region's up-to-date dynamics and prospects for growth are:

a. Raisins, wines - beverages, vegetables and fruits (especially in greenhouse crops, processing of products - industrial tomatoes, strawberries, asparagus, etc.);
b. Oil,
c. Salt,
d. Livestock farming with emphasis on cheese production and its products specifically for Achaia and Aitoloakarnania,
e. Fisheries - fish farming with emphasis on free-range products, fish farming products and lagoon products,
f. Logistic and support for the distribution and promotion of products in market and g. Energy recovery of crop residues.
g. ICTs and Energy applications (horizontally)

2. Tourism and Culture

The development of tourism is based on interventions that go beyond innovation and research policy. As can be seen from analysis of the value chain, tourism activities are fed and fueled by activities, services and products of other industries. Sectors with significant inflows into tourism are agricultural production and food, transport and logistics, culture and related activities.

3. Materials and microelectronics

The interest is mainly focused on:

• the production of advanced materials used in both microelectronics and energy (eg PV and hydrogen cells)

• the design of microelectronics components that find important applications in a number of industries such as electronic systems (industrial and consumer applications), ICT, etc.

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Regional Report on Innovation Potential and Dominant Emerging Industries

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Balkan-Mediterranean
INNOPLATFORM

InnoPlatform project is co-funded by the European Union
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