

RIS3 and ROP Assessment: Region of Attica

A report to the European Commission, Directorate General for Regional Policy, Unit I3 - Greece & Cyprus

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Executive summary

Research and Innovation Strategy for Smart Specialisation of Attica (RIS3 Attica) is a document of the Intermediary Management Authority of Attica based on a study prepared by Logotech SA. It is a text of 215 pages organized in 6 chapters and 2 annexes. The RIS3 adopts a typical strategic planning structure and methodology, but it remains at the first stages of strategic planning, mainly the analysis, SWOT, vision and selection of thematic objectives for development.

The SWOT analysis is based on a detailed data gathering and description of current trends and performance, including demographics, population growth, active population, employment and unemployment trends. Innovation and technological performance of the Attica Region describes research and innovation infrastructure, R&D expenditure, patent applications, human resources, ICT and broadband networks, clusters, and KETs in Attica.

Attica is metropolitan economy, specialized in health services and pharmaceuticals, tourism, transport and logistics, food production, microelectronics and mobile applications, aerospace and gaming, with an important cultural potential, and existence of a significant research and higher education infrastructure; weaknesses are in the low business involvement in R&D, low cooperation between enterprises, small number of organized clusters, and low use of Internet; opportunities are in the diversification of the tourism product and the development of alternative forms of tourism, in the development of the Blue economy, and in specialized medical tourism and respective drugs, equipment and support. Threats are due to the adverse economic environment created by the current crisis, the high and rising unemployment, and the decline in the manufacturing sector, in particular the food industry.

Based on the SWOT analysis, RIS3 suggests the smart specialisation strategy of Attica should be built around a number of key areas that play a unifying role in the regional economy, such as alternative tourism and blue economy; medical tourism - related pharmacology - health infrastructure; smart transportation, trade, logistics; creative economy, tourism and culture, digital content; micro-electronics, computing and mobile applications; special foods and local products of Attica; and environmental (clean) technologies.

The action plan is missing, as well as the implementation framework in terms of measures, policy mix, budget and sources of funding.

The chapter on digital growth describes broadband infrastructure, Internet penetration, and use of ICT services in the private and public sectors. However, no further actions and policy mix is described.

Recommendations towards RIS3 of Attica include (1) an action plan and policy mix should be defined, (2) allocate policy actions and measures per Thematic Objective 1, 2, and 3, (3) adopt a systemic perspective in the policy mix, (4) elaborate an action plan consistent with the Digital Agenda for Europe objectives, and (5) define a regional system of monitoring and assessment.

The ROP of Attica is conceived as an integrated strategy covering the dimensions of smart growth, sustainable growth, and inclusive growth. Research, innovation and digital growth actions fall under the Thematic Objectives 1, 2, and 3. The overall budget that is available to these TOs (17.7%) indicates that smart growth is the last development priority of ROP. Sustainable growth takes the lion share with 43.62% and inclusive growth 36.88% of the total ROP budget.

The RIS3 is much more ambitious and should entail more extensive support from the ROP. Moreover, the RIS3 SWOT and prioritisation is significantly vertical, outlining a series of vertical markets as areas of diversification, while the ROP of Attica is rather horizontal, without specifying the actions, output and result indicators per priority sector.

All ROP actions related to investment priorities 1b, 2b and 2c are consistent with the RIS3 of Attica. 67.5% are vertical actions and 22.5% horizontal.

Recommendations towards the ROP of Attica include (1) a full consistency between the RIS3 and the ROP in all investment priorities of Thematic Objectives 1, 2, and 3, as most actions under the TO3 are clearly innovation support actions, (2) an action plan more specific and pillar to the implementation of RIS3, and (3) coordination of monitoring indicators, target and result, between ROP and RIS3.

1. RIS3 Attica

The RIS3 compliance assessment refers to the RIS3, the digital growth strategy, and the action plan for the implementation of the smart specialisation strategy.

1.1. RIS3 structure and content

Research and Innovation Strategy for Smart Specialisation of Attica (RIS3 Attica) is a document of the Intermediary Management Authority of Attica based on a study prepared by Logotech SA. It is a text of 215 pages organized in 6 chapters and 2 annexes, as below:

Chap. 1: The strategy of Smart Specialisation	Chap. 5: The vision of the Region
Chap. 2: Socioeconomic performance of the Region of Attica	Chap. 6 : System of Governance
Chap. 3: Innovation and technological performance of the Region of Attica	Annex I. Sectoral specialisation of the Region of Attica
Chap. 4: SWOT analysis	Annex II. Research and innovation infrastructure in Attica

The RIS3 report adopts a typical strategic planning structure and methodology, but it remains at the first stages of strategic planning, mainly the analysis, SWOT, vision and selection of thematic objectives for development. The activity plan (or action plan) to turn these thematic objectives in reality is missing, as well as the implementation in terms of measures, policy mix, budget and sources of funding.

Analysis and SWOT

The SWOT analysis is based on a detailed data gathering and description of current trends and performance, which are presented in Chapters 2 and 3, and the Annexes I and II.

Socio-economic performance in Chap 2, outlines the demographics, population growth, active population, and employment and unemployment trends. Some major development trends and challenges include:

The Attica is the richest region of Greece. The region produces 48% of the total Gross Domestic Product and 0.86% of the EU27. PPS is 28 200 Euro, corresponding to 132% of the average GDP of the country and 115% of the EU-27 average GDP (Eurostat 2010). Therefore, the development of the region is decisive to the overall development and wealth of Greece.

The unemployment rate for people aged 20-64 in the Region of Attica is greater than in EU27 and the country. Based on comparative data from Eurostat for 2012 in the region, the unemployment rate of the population aged 20-64 stood at 25.1% in Greece to 24.1%, while in the EU27 at 10.2%.

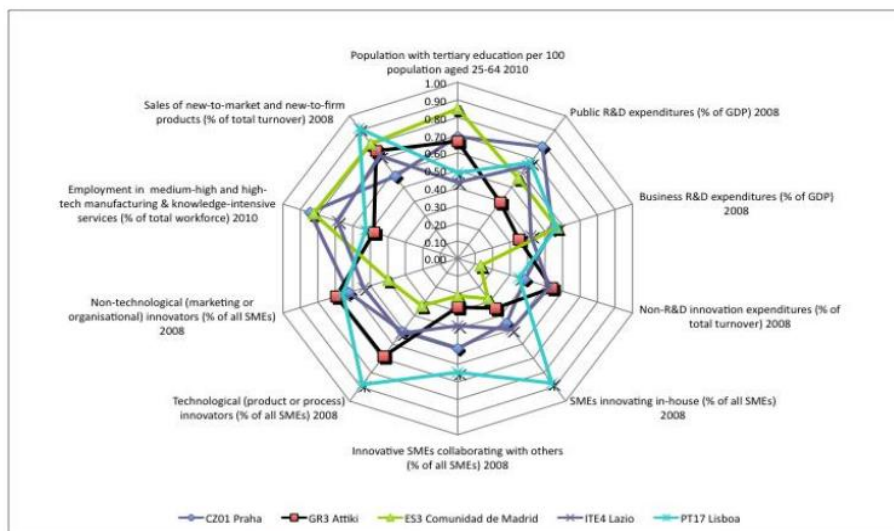
Over the period of crisis, 2010-2012, employment in industry decreased by 96,200 persons or 29.4% reduction. A typical example is the food industry, which is the largest manufacturing sector in Attica as to the volume of employment, as this industry recorded job losses reaching the 8700 positions or a reduction of 24,7%.

At sectoral level, Attica recorded a significant contribution of trade and tourism in total GVA. Apart from trade, other important industries within the service sector is that of financial services, transport and ICT, health and social services. Higher specialisation quotients (>2) are to be found in the sectors of sea transport (5.67), creative industries, arts and entertainment (3.04%), and manufacture of coke and refined petroleum products (2.26).

Innovative and technological performance of the Attica Region is presented in Chap. 3 and in more detail in Annex 2, including research and innovation infrastructure, R&D expenditure, patent applications, human resources, ICT and broadband networks, clusters, and KETs in Attica. Attica is classified in the group of European regions «Innovation Follower» under the Regional Innovation Scorecard (RIS 2012), and is significantly more advanced in comparison to the other regions of the country. Attica is the largest spending region in Greece in research and innovation,

but still lags behind the EU27. Attica spends 0.72% of GDP on R&D, which is higher than the national average at 0.67%, but still behind the EU-27 average at 2.05%.

Fig. 1: Innovation performance in Attica compared to other EU capital cities



Statistical analysis and time series conclude with a SWOT analysis that identifies the most promising and dynamic sectors of the Region.

The concentration of R & D in Attica is impressive both in terms of human resources for science and technology and the number of organizations. In the private sector, skilled workforce is predominantly employed in high-tech manufacturing and knowledge-intensive services. Based on the international competitive position of the medical and health sciences, agronomic, ICT and microelectronics, nanotechnology and environmental technologies, as well as engineering, natural sciences and social sciences are the spearheads of R&D in the region.

Alongside the successful practices of mature clusters, new cluster started to build, mainly in the ICT sector for the production of products and services with high added value. Technology ventures capture more and more the younger population.

Tourism is blended with culture. Through this mutual development, creative industries such as design, jewelry, arts through new technology, are developed, and partnerships begin to grow with specialized clusters.

Attica is also the seat of one of the largest ports in the world, Piraeus. Through Piraeus and their respective services to shipping, sailing, cruising, shipbuilding, ship repair and the set of services that lead to products and services seen an opportunity to shift to the blue economy in a more organized manner.

We should underline that many datasets used for analysis and SWOT are old. For instance Table 7 (Enterprises and turnover in Attica per 1-digit industry code) and Table 10 (Enterprises and turnover of the secondary sector in Attica per 1-and2- digit industry code) are based on ELSTAT 2008 data. However, it is common knowledge that the fiscal crisis of 2009-2014 has substantially changed the industry composition due to massive closure and restructuring of companies.

Strategy / prioritisation

Following the SWOT analysis, the report suggest the smart specialisation strategy of Attica should be built around a number of key areas that play a unifying role in the regional economy, such as transport systems (marine and urban), industry of experience (tourism), corporate knowledge-intensive business services, application and diffusion of ICT as a source of entrepreneurship and enabling technology energy efficiency in the private and public sector, technologies for smart cities, and the most comprehensive development and promotion of the creative industries.

Also, there is a need for greater emphasis on "eco-innovation" and how such innovation could help boosting both the business potential, the 'greening' of the urban environment, waste management and recycling. Attica should focus on the valorization of commercial and industrial zones, incubators, accelerators, innovation centers and building sites that are available. Further development by offering value-added services for tenants and provide incentives for the creation of thematic incubators in conjunction with other policies such as clusters is important. Based on these general orientations, RIS3 suggests a specialisation based on the following 7 priority domains:

Alternative tourism and blue economy

The area of the blue economy and the corresponding alternative tourism is closely linked with the sea transport in Attica and the cruise and sailing activities. Important in this area is the existence within the limits of the Region of Piraeus, the most important port in the country and a multitude of other ports and marinas, implying the operation of a large number of companies in this sector. Great importance to the economy and its influence over the other branches is cultural tourism. It is necessary that the cultural potential of Attica (monuments, museums, Olympic Games) is addressed as a cluster with corresponding networking and research for better growth.

Medical tourism - related pharmacology - health infrastructure

The production of basic pharmaceutical products employs 6,577 people in the Region of Attica, the industry has a significant specialisation of 1.49. A highly dynamic and growing extension of the healthcare industry is medical tourism. In fact, according to a study by the McKinsey Athens brings together the majority of public and private hospitals in the country, and has considerable potential in the rapidly growing segment of medical tourism. Much more mature is the development of spa tourism and wellness tourism. In Attica there are plenty of such infrastructure and spa.

Smart transportation, trade, logistics

The sector of land transport is significant due to the size of the agglomeration. Attica shows the largest movement of export goods in the country, the port of Piraeus shows both growth in movement of goods and passengers. These activities offer markets for smart transportation systems and smart information channels. Of particular interest is the smart mobile applications field and a multitude of possibilities and opportunities that may arise.

Creative economy, tourism and culture, digital content

The strong presence of industry in the Region of Attica is confirmed by the fact that, despite the growing unemployment in the region in recent years, the loss of jobs in the sector in absolute terms was for the period 2010-2012 to just 124. The proportion of employees in the industry (compared with other sectors of the region) increased from 1.2% in 2009 to 1.5% in 2013. The sector gathers activities related to architecture, design, digital creative content, entertainment software, music, crafts, painting, theater or advertising.

Micro-electronics, computing and mobile applications

A dynamic industry with a multitude of applications and capabilities that can contribute to economic and social development of the Region of Attica. Similarly, the cluster of aerospace technology and applications (si-Cluster) is the first and only aerospace cluster in Greece. The si-Cluster, which is based in Athens, is focused on developing specific technology products and services. Market opportunities emerge from applications and communication with mobile devices, the mobile Internet, and smart systems. Attica presents great potential for growth in these sectors, companies already distinguished worldwide in application areas and internet services and mobile telephony, aerospace, medical technology, and micro-electronics.

Special foods and local products of Attica

Activities of the primary sector are mainly concentrated in Marathon, Avlona, Megara, the islands and Troizina, with main branches of floriculture, horticulture, viticulture and aquaculture. In contrast, traditional sectors (e.g. cereals, olive), with the exception of wine production and animal husbandry, are in decline. Western Attica hosts capital intensive greenhouses and farms. The food industry, which does not show significant specialisation (0.81), is ninth in terms of employment. Horticulture and rural greenhouse, wine, flowers, pistachio, honey, goat milk products and meat and traditional products Feta, olive oil and honey are local products with significant potential for exploitation and growth.

Environmental (clean) technologies

This is a horizontal sector, of technologies mainly, that can accommodate various industries and significant growth potential due to the need of Greece to adapt to environmental rules of the EU. Those technologies include (i) advanced anaerobic wastewater treatment processes, (ii) aerobic biological treatment processes, (iii) thermal waste treatment method, (iv) methods for inactivation of hazardous pollutants, (v) restoration of soil and water discharges, (vi) physicochemical methods of water treatment and wastewater, and (vii) advanced engineering approaches recycling.

The prioritization of sectors selected is not justified with respect to data. Prioritization in these sectors should be corroborated with data comparing the selected sectors with the overall activity and potential of Attica, such as

- Specialization coefficients
- Critical mass analysis in terms of business numbers, employment, GVA, and profitability
- Industry dynamics based on changes in enterprises, employment, and GVA
- Openness and export orientation of the sectors selected
- Research activity and mainly business research expenditure
- Innovation potential

With respect to the national RIS3 framework, the priority sectors selected fall into the eight priority sectors of Greece defined by GSRT. The RIS3 document does not provide information about the national – regional coordination process, the participation of the Region in the Innovation Platforms of GSRT or the Working Groups of the OP for Competitiveness, Entrepreneurship and Innovation.

There is good mixture of interrelated activities and concern for clusters and cross-industry networks. Investment opportunities and markets are mentioned. However, the methodology that led to the definition of these opportunities is not described or even mentioned.

There isn't any reference to 'entrepreneurial discovery' processes and methodology. It is also clear that within the sectors selected, RIS3 does not proceed to identification of promising products, technologies and activities that could capture the interest of enterprises and investors.

It seems that the outcome in terms of opportunities within the 7 selected priority domains are a result of desk work than real consultation with company leaders and experts.

Action plan and policy mix

An action plan or policy mix for the implementation of the above priorities is not provided

Implementation, budget, monitoring

The chapter on implementation is totally missing.

- Budgetary sources are not mentioned in any place of the RIS3.
- There is no indicative multi-annual plan for budgeting and prioritization of investments linked to EU priorities
- Monitoring and assessment systems are not described, including indicators and governance of the monitoring mechanism.
- Monitoring is expected to be provided by the Observatory of smart, sustainable, and inclusive regional development.

1.2. Digital growth strategy

The chapter on digital growth (3.5. ICT and broadband networks) is balanced (pp. 61-69). It is based on data from the Observatory of Digital Greece on broadband infrastructure, Internet penetration, and use of ICT services in the private and public sectors. Attica is placed at the top position in use of computers and holds also the first position in use the Internet. However, there is important un-exploited potential, mainly in the use of electronic public services. The reports describes broadband infrastructure, and concludes with a SWOT analysis identifying strengths, weaknesses, etc., in the domains of (i) strengthening research, technological development and innovation, and (ii) enhancing access, use and quality of ICT.

No further actions and policy mix is described. Therefore, this part of RIS3 should be revised with strategy and actions covering all areas of the DAE / ICT RIS3, such as:

Broadband infrastructure	Usages: Platforms, applications, e-services
<ul style="list-style-type: none"> New Generation Networks – FTTH Wireless technologies for high speed broadband City-wide Wi-Fi Focal Wi-Fi networks Cloud infrastructure, Government cloud 	Digital entrepreneurial services <ul style="list-style-type: none"> e-Services for individual companies e-Services for clusters and groups of companies
	Digital services to citizens <ul style="list-style-type: none"> Culture & historical heritage e-services Vocational training e-services Health services, e-health
	Digital services for optimisation of infrastructure and utilities <ul style="list-style-type: none"> Intelligent transport systems Smart energy grid Digital water management Digital waste management
	Digital services for e-governance <ul style="list-style-type: none"> Administration services to citizens Planning and monitoring services

1.3. Ex ante conditionalities (Action plan checklist)

Ex ante conditionalities (EAC) are partially covered. The RIS3 report under examination is not complete and most significant parts are missing, related to policy mix, budgeting, main projects / actions description, monitoring and evaluation. In particular,

EAC 1.1. Research and innovation: The existence of a national or regional smart specialisation strategy in line with the National Reform Programme, to leverage private research and innovation expenditure, which complies with the features of well-performing national or regional R&I systems.

Fulfilment checklist

A national or regional smart specialisation is in place that:	YES	
– is based on a SWOT or similar analysis to concentrate resources on a limited set of research and innovation priorities;	YES	
- outlines measures to stimulate private RTD investment;		NO
- contains a monitoring mechanism.		NO
A framework outlining available budgetary resources for research and innovation has been adopted.		NO

EAC 1.2 Research and Innovation infrastructure. The existence of a multiannual plan for budgeting and prioritisation of investments.

Fulfilment checklist

An indicative multi-annual plan for budgeting and prioritization of investments linked to Union priorities, and, where appropriate, the European Strategy Forum on Research Infrastructures - ESFRI has been adopted.		NO
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EAC 2.1 Digital growth. A strategic policy framework for digital growth to stimulate affordable, good quality and interoperable ICT-enabled private and public services and increase uptake by citizens, including vulnerable groups, businesses and public administrations including cross border initiatives.

Fulfilment checklist

A strategic policy framework for digital growth, for instance, within the national or regional smart specialisation strategy is in place that contains:		NO
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– budgeting and prioritisation of actions through a SWOT or similar analysis consistent with the Scoreboard of the Digital Agenda for Europe;		NO
– an analysis of balancing support for demand and supply of information and communication technologies (ICT) should have been conducted;		NO
– indicators to measure progress of interventions in areas such as digital literacy, e-inclusion, e-accessibility, and progress of e-health within the limits of Article 168 TFEU which are aligned, where appropriate, with existing relevant sectoral Union, national or regional strategies;		NO
– assessment of needs to reinforce ICT capacity-building.		YES

1.4. Recommendations towards RIS3

Based on the above observation related to analysis, vision and strategic objectives, action plan and implementation chapters of RIS3 of Attica, we suggest the following recommendations and compliance to ex ante conditionalities:

Rec 1: An action plan and policy mix should be elaborated. We suggest using some kind of Balanced Scorecard methodology adapted to regional development and planning (i.e. <http://www.wseas.us/e-library/conferences/2010/Tenerife/DEEE/DEEE-02.pdf>), which will allow interconnecting objectives, actions, measurement indicators, and expected results. An example is given below:

Objectives	Measurement indicators: KPIs that can capture improvements of objectives	Initiatives / actions/ projects to meet the objectives	Targets: Expected achievements in terms of selected KPIs
For instance, in Axis 1:			
Objective: Creation of new agrofood products	KPIs to measure this objective: -Number of new products introduced -Sales from new products	Action 1.1.1: New products based on research and innovation in the agrofood	-Increase of sales from new products by x% per year

Rec 2: Allocate policy actions and measures per Thematic Objective 1, 2, and 3. Provide a detailed budget and estimate the total cost of RIS3 implementation, the allocation of budget per funding line, and the time schedule for funding over the entire planning period.

Rec 3: Combine the business support measures foreseen in the action plan with support towards the creation of innovation environments, platforms and systems (institutional, collaborative, experimental, user-driven, digital services, etc.) enabling the supported businesses to find external resources for product development, technology learning, and market access.

Rec 4: Complete the Chapter on “ICT and Broadband Networks” (3.5) with a digital growth plan consistent with the Digital Agenda for Europe objectives. This plan should be elaborated given the priority sectors selected include ICT, micro-electronics, computing, mobile applications, digital content, and smart transport.

RIS3 should take into account the *Digital Agenda Toolbox*, which foresees “For the upcoming period of Structural Funds, an ex-ante conditionality applies which aims at fostering the development and implementation of national and regional digital growth measures and promoting the DAE goals by exploiting national and regional assets in line with the idea of smart specialisation. This conditionality applies to Member States and regions that are planning to allocate ERDF funding to developing ICT products and services, and public eServices. They are obliged to develop a *Strategic Policy Framework for Digital Growth*. Those wishing to use ERDF to extend broadband deployment should also develop a *Next Generation Network (NGN) Plan*.” (p. 9).

Targets and actions related to next generation broadband networks in the region of Attica and advanced digital services, should enable
By 2015

- 33% of SMEs selling online
- 20% of population buying online
- 60% of disadvantaged people using Internet regularly
- 75% of population using Internet regularly
- 15% of population having never used the Internet
- 50% of population using e-government
- 25% of population using e-government and returning forms

By 2020

- Fast broadband (>30Mbps) coverage for all
- 50% of households taking broadband subscriptions >100 Mbps
- 100% increase in ICT R&D public spending

Rec 5: Define a regional system of monitoring and assessment, define the indicators needed to monitor the progress of action plan implementation and the impact on the performance of the region. Take into account the coordination of regional and national monitoring and assessment systems and the indicators used by the ROP of Attica.

2. Consistency analysis between RIS3 and ROP

In order to advise whether the Regional Operational Programme of Attica is consistent with the Research and Innovation Strategy for Smart Specialisation of the same region we address the following questions:

(a) Are the analysis in the ROP of Attica and its research / innovation / digital growth related result and output indicators and targets consistent with the results of the RIS3 SWOT or other analysis?

(b) Are the research / innovation / digital growth priority axis and description of the actions in the ROP consistent with the RIS3 specialisation fields and policy mix (including possible horizontal / generic support measures)?

(c) Are innovation-related support actions in the ROP under investment priorities 1a, 1b, 2b or 2c that are NOT consistent with the RIS3? If relevant: Are there any innovation-related actions that do not fall under investment priorities 1a, 1b, 2b or 2c (but for instance IP3 SME competitiveness or IP4 energy and eco-innovation) and are they consistent with the RIS3?

(d) What percentage of the budget for the research / innovation / digital growth priority axis goes into horizontal / generic support actions and which is targeted exclusively at the RIS3 specialisation fields? Is the ROP budget consistent with the RIS3 indicative budget planning / information?

2.1. Research, innovation and digital growth action in the ROP and RIS3

The ROP of Attica is conceived as an integrated strategy covering the dimensions of smart growth, sustainable growth, and inclusive growth. ROP includes all the ingredients of a strategic plan document, such as analysis and SWOT, strategic objectives, action plan, budget, monitoring and assessment indicators.

Therefore a first statement regarding the consistency of ROP and RIS3 is that the ROP of Attica is not designed as follow-up and implementation component of the respective RIS3, but as a coherent strategy that takes into account RIS3 but goes far beyond the current state of RIS3 elaboration.

Research, innovation and digital growth actions fall under the Thematic Objectives 1, 2, and 3. The overall budget that is available to these TO (17.7%) indicates that smart growth is the last development priority of ROP. Sustainable growth takes the lion's share with 43.62% and inclusive growth 36.88% of the total ROP budget.

Tables 1 and 2 show the fundamental features of the ROP of Attica in terms of effort (expenditure by specific objective and investment priority) and results (output and results indicators), and investment categories to achieve the expected results.

Table 1: Objectives and budget per Thematic Objective and Investment Priority dealing with research, innovation and ICT

OP Specific Objective	Investment Priority	Objectives	Budget Euro	% of OP
01-Strengthening research, technological development and innovation	1b	<ul style="list-style-type: none"> -Increase private R&I - Increase the number of high tech enterprises -Networking of public infrastructure with private R&I initiatives -Investment for new products -Support research and development in companies 	23.866.040	2.62
02-Enhancing access to, and use and quality of information and communication technologies	2b	<ul style="list-style-type: none"> - Increase the use of ICT in enterprises and promote electronic commerce - Integrating ICT products and services to businesses, especially in tourism, culture, creative industry, trade, energy, logistics 	32.000.000	3.51%
	2c	<ul style="list-style-type: none"> - ICT in smart transport, smart cities, services to citizens, tourist promotion, e-inclusion 		
03-Enhancing the competitiveness of small and medium-sized enterprises, the agricultural sectors and the fisheries and aquaculture	3c	<ul style="list-style-type: none"> -Innovative youth entrepreneurship through incubators -Creating clusters in emerging sectors -Creating sustainable jobs -Entrepreneurship in conjunction with urban regeneration -Support excellence, new products and company start-ups 	105.639.332	11.58%
	3c	<ul style="list-style-type: none"> -Creating new jobs -Improving productivity through technological modernization -Use of alternative financial tools -Turn manufacturing to high added value sectors -Upgrade tourist services 		
	3d	<ul style="list-style-type: none"> -Enter business in new markets -Broadening the export base of the regional economy -Innovation and business participation in international networks -Strengthening innovation clusters and positioning in international markets 		

Table 2: Output and result indicators and investment tools per Investment Priority of research and innovation

Investment Priority	Indicator	Name of indicator	Baseline value (2011)	Target value (2023)
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1b	T3211	Percentage of private participation in R&I expenditure in the region	47	62
	CO26	Number of enterprises cooperating with research institutions		250
	CO27	Private investment matching public support in innovation or R & D projects		30.000.000
Investment categories				
004. Productive investment linked to the cooperation between large enterprises and SMEs for developing ICT products and services, e-commerce and enhancing demand for ICT				8 353 114
061. Research and innovation activities in private research centres including networking				1 431 962
062. Technology transfer and university-industry cooperation primarily benefiting SMEs				8 353 114
0.64. Research and innovation processes in SMES (including voucher schemes, process, design, service and social innovation)				5 727 850
				23 866 040

2b	T3221	Percentage of companies operating through e-commerce	5.80	15.00
	CO01	Number of enterprises receiving support		300
2c	T3222	Percentage of population served by electronic transport applications	0.00	50.00
	T3225	ICT applications in urban transport		1
Investment categories				
048. ICT: Other types of ICT infrastructure / large scale computer resources (including e-infrastructure, data centres and sensors; embedded infrastructure, research facilities, environmental and social infrastructure)				18 688 000
0.79. Access to public sector information (including open data, e-culture, digital libraries, e-contents, e-tourism)				2 336 000
080. e-Inclusion, e-accessibility, e-learning, e-education services, digital literacy				2 336 000
082. ICT services and applications for SMEs (e-commerce, e-business) living labs, wen entrepreneurs, ICT start-ups				8 640 000
				32 000 000

3a	T3231	Number of associated enterprises in clusters / incubators	185	300
	T3233	Employment growth in the region's SMEs	678.710	685.000
	CO04	Number of enterprises receiving support		500
	CO05	Number of new enterprises receiving support		40
3c	CO01	Number of enterprises receiving support		750
	CO06	Private investment matching public support to enterprises		45.000.000
	CO08	Employment increase in supported enterprises		1.000
3d	T2333	Value of exports of goods and services	1243.47	1305.65
	CO02	Number of enterprises receiving grants		300
	CO04	Number of enterprises receiving non-financial support		2000
Investment categories				
001. Generic productive investment in SMEs				29 050 816
063. Cluster support and business networks primary benefiting SMEs				5 281 967
064. Research and innovation processes in SMEs ((including voucher schemes, process, design, service and social innovation)				6 602 458
066. Advanced support services for SMEs and groups pf SMEs (including management, marketing and design services)				5 281 697
067. SME business development, support to entrepreneurship and incubation (including support of spinoffs and spinouts)				10 563 933

071. Development and promotion of enterprises specialised in providing services co low carbon economy and resilience to climate change	11 620 327
072. Business infrastructure for SMEs (including industrial parks and sites)	17 430 490
075. Development and promotion of tourism services in or for SMEs	6 602 458
076. Development and promotion of cultural and creative assets in SMEs	13 204 916
	105 639 062

2.2. Consistency analysis between RIS3 and ROP

a. Consistency of the ROP Attica research, innovation, and digital growth result, output indicators and targets with the results of the RIS3 SWOT or other analysis

The RIS3 of Attica SWOT outlines a metropolitan economy, specialized in health services and pharmaceuticals, tourism, transport and logistics, food production, microelectronics and mobile applications, aerospace and gaming, with an important cultural potential, and existence of a significant research and higher education infrastructure; weaknesses in the low business involvement in R&D, low cooperation between enterprises, small number of organized clusters, and low use of Internet; opportunities in the diversification of the tourism product and the development of alternative forms of tourism, in the development of the Blue economy, and in specialized medical tourism and respective drugs, equipment and support. Threats due to the adverse economic environment created by the current crisis, the high and rising unemployment, and the decline in the manufacturing sector, in particular the food industry.

The ROP of Attica output and result indicators outline foresee a financial support to 2250 enterprises and a non-financial support to other 2000 enterprises; the creation of 7250 new working places; 5% increase of exports; and 15% increase in e-commerce. These expected outcomes and results cannot sustain a radical change and restructuring of the regional economy and provide significant opportunities for productive diversification, sustaining an exit from the crisis.

Clearly, the objectives of RIS3 are much more ambitious and should entail more extensive support from the ROP. Moreover, the RIS3 SWOT and prioritisation is significantly vertical, outlining a series of vertical markets as areas of diversification, while the ROP of Attica is rather horizontal, without specifying the actions, output and result indicators per priority sector.

b. Research, innovation, and digital growth priority axis and description of the actions in the ROP consistency with respect to RIS3 specialisation fields and policy mix (including possible horizontal / generic support measures).

The current state of elaboration of RIS3 Attica does not provide information about the policy mix that will serve and support the specialisation objectives.

On the other hand, the policy mix of ROP Attica, presented on Table 2, does not offer a breakdown of actions by RIS3 specialisation field.

Therefore, the assessment of policy mix consistency between RIS3 and ROP of Attica at this stage is not feasible.

We should add that the policy mix of ROP of Attica is sufficient generic and can support the usual innovation support policies.

c. Innovation-related support actions in the ROP under investment priorities 1a, 1b, 2b or 2c NOT consistent with the RIS3

The ROP of Attica does not include actions under the investment priority 1a.

All innovation support actions (development of ICT products and services, R&I in private research centres, technology transfer and university-industry cooperation, R&I in SMES including voucher schemes, process, design, service and social innovation) under the investment priority 1b are consistent with RIS3.

Actions under the investment priority 2b concern e-commerce solutions and an increase by 10 percent in the use of e-commerce is foreseen. Most of e-commerce solutions, however, are low-level innovations, an innovation-to-the-company, practiced by most companies. The Digital Agenda for Europe has set the objective of 33% of SMEs selling online by 2020. In principle, we can accept that e-commerce is an innovation and consider such investments under 2b consistent with RIS3.

Actions under the investment priority 2c concern intelligent transport systems and ICT applications in urban transport. Smart transportation and land transport in Athens is clearly a priority sector of RIS3, and therefore all actions under 2c are consistent with RIS3.

In conclusion, all actions related to investment priorities 1b, 2b and 2c are consistent with the RIS3 of Attica.

d. Percentage of the budget for the research / innovation / digital growth priority axis that goes into horizontal / generic support actions and which is targeted exclusively at the RIS3 specialisation fields?

The breakdown of ROP actions into vertical to priority axis and horizontal / generic support is given in the Table below.

Table 3: Priority and horizontal actions in ROP Attica

Actions	RIS3 priority axis	Horizontal
004. Productive investment linked to the cooperation between large enterprises and SMEs for developing ICT products and services, e-commerce and enhancing demand for ICT	8353114	
061. Research and innovation activities in private research centres including networking	1431962	
062. Technology transfer and university-industry cooperation primarily benefiting SMEs	8353114	
0.64. Research and innovation processes in SMES (including voucher schemes, process, design, service and social innovation)	5727850	
048. ICT: Other types of ICT infrastructure / large scale computer resources (including e-infrastructure, data centres and sensors; embedded infrastructure, research facilities, environmental and social infrastructure		18688000
0.79. Access to public sector information (including open data, e-culture, digital libraries, e-contents, e-tourism		2336000
080. e-Inclusion, e-accessibility, e-learning, e-education services, digital literacy		2336000
082. ICT services and applications for SMEs (e-commerce, e-business) living labs, web entrepreneurs, ICT start-ups	8640000	
001. Generic productive investment in SMEs	29050816	
063. Cluster support and business networks primary benefiting SMEs	5281967	
064. Research and innovation processes in SMEs (including voucher schemes, process, design, service and social innovation)	6602458	
066. Advanced support services for SMEs and groups of SMEs (including management, marketing and design services)	5281697	
067. SME business development, support to entrepreneurship and incubation (including support of spinoffs and spinouts)	10563933	
071. Development and promotion of enterprises specialised in providing services to low carbon economy and resilience to climate change		11620327
072. Business infrastructure for SMEs (including industrial parks and sites)		17430490
075. Development and promotion of tourism services in or for SMEs	6602458	
076. Development and promotion of cultural and creative assets in SMEs	13204916	
TOTAL VERTICAL	109 094 285	

	67.5%	
TOTAL HORIZONTAL		52 410 817 22.5%

There is no budget breakdown at the level of RIS3 actions to compare with this allocation foreseen in the ROP of Attica.

2.3. Recommendations towards the ROP of Attica

Based on the above comments of consistency analysis, we suggest the following recommendations:

Rec 1: Full consistency should be sought between the RIS3 and the ROP in all investment priorities of Thematic Objectives 1, 2, and 3. Most actions under the TO3 of ROP are clearly innovation support actions and should be aligned to RIS3 priority sectors and entrepreneurial discovery findings and activities.

Rec 2: The action plan of ROP and the specific actions foreseen should comply with the action plan of RIS3, when available. Especially, all actions of ROP should make clear how they relate to the priority sectors defined by the RIS3. The ROP of Attica should become the main pillar of RIS3 Attica implementation.

Rec 3: Monitoring indicators, target and result used by the ROP should be similar to those employed by the RIS3 (still to be defined). As in the case of actions, full consistency is expected at the level of monitoring and assessment indicators. Larger number of indicators should be used to outline the policy mix proposed.

Assessment grid

RIS3 ATTICA: LEVEL OF ELABORATION	
PRIORITISATION/ED:	The RIS3 accounts for all research and innovation actions in the region, not only those foreseen into the ROP
RIS accounts for the Region in total or just the ROP	There is 100% equivalence between RIS and ROP; RIS addresses also EAFRD resources
Governance provisions to ensure entrepreneurial discovery	Some degree
Priority Sectors (SS) well & clearly defined?	-Alternative tourism and blue economy -Medical tourism - related pharmacology - health infrastructure -Smart transportation, trade, logistics -Creative economy, tourism and culture, digital content -Micro-electronics, computing and mobile applications -Special foods and local products of Attica -Environmental (clean) technologies
Ensure inclusion	82% of enterprises declaring R&D expenditure fall into the selected priority sectors
Priority role to the business sector	Yes, in the description of priority sectors
Is demand side innovation addressed?	No
RIS3 ACTIVITIES PLANNED:	
Political endorsement	No
Activities for envisaged RIS3 actions and Policy mix	No

Indicative actions for each Priority Sector.	No
Activities - Measures with Time Schedule and Budget	No
TOTAL FUNDING:	
Total funding – all sources clear?	No
Provisions private funding	
RIS 3 INDICATORS:	
Existence and adequacy of Indicators	No
Output Indicators – do they exist?	No
Output Indicators – are they adequate?	No
Result Indicators – do they exist?	No
Result Indicators – are they adequate?	No
RIS3 – OPERATIONAL PROGRAMME	
COMPLIANCE:	
Complementarity - Synergies btn ROP and EPANEK	Not addressed
Complementarity - Synergies btn ROP and PAA	Not addressed
Are Regional RIS3 priorities reflected in ROP?	Yes, all
Are ROP priorities reflected in EPANEK?	Yes
Does the ROP identify opportunities within the chosen sectors?	No
Compliance with RIS3 EACs	Partly
OP INDICATORS:	
Is methodology of OP/ ROP of setting up and quantifying indicators described in a separate annex?	No
Are RIS and ROP indicators identical?	No
OTHER TARGETS:	
Contribution to ΕΣΠΕΚ	No
Contribution to Digital Agenda strategy	No