



# Pacinnod

6.2. REPORT

Recommendations for New  
Innovation Policies for the  
Adriatic Region



Platform for **trans-Academic  
Cooperation in Innovation  
within the Adriatic Region**



## IMPRESSUM

### Platform for trans-Academic Cooperation in Innovation (PACiNNO) Project

PACiNNO is a collaboration platform that connects into a single regional innovation system researchers and academic institutions, policy makers, and innovative companies of eight countries belonging to the Adriatic region (Albania, Bosnia-Herzegovina, Croatia, Greece, Italy, Montenegro, Serbia, and Slovenia). The goal of PACiNNO is to establish a platform for cooperation in research and innovation covering the whole Adriatic region. Targeting research institutions, policy makers and business entities, the project helps develop new bridges between the research and scientific activities, carried out at academic institutions, and the economic system, with specific reference to the technological needs of SMEs. More generally, PACiNNO is aimed at overcoming the main obstacles and barriers to the economic development of the Adriatic countries, fostering the competitiveness of their minor firms (both in the high-tech fields and in the traditional industries), and promoting the creation of innovative start-ups.

Recommendations for New Innovation Policies for the Adriatic Region [Elektronski izvor]: PACiNNO report / [authored by Ana Marković Čunko, Ani Gerbin, Marta Begonja]. - Elektronski tekstualni podaci. - Rijeka: Medicinski fakultet, 2016

Način pristupa (URL): <http://www.pacinnno.eu>. - Nasl. s nasl. ekrana.

ISBN 978-953-7957-53-7

“This document has been produced with the financial assistance of the IPA Adriatic Cross-Border Cooperation Programme. The contents of this document are the sole responsibility of the PACiNNO project partners and can under no circumstances be regarded as reflecting the position of the IPA Adriatic Cross-Border Cooperation Programme Authorities.”

### Authors:

Ana Marković Čunko  
Ani Gerbin  
Marta Begonja

Publisher:  
Sveučilište u Rijeci Medicinski fakultet

For publisher:

Prof. Dr. Tomislav Rukavina, Dean

DTP:  
Pago Com d.o.o., member of PROteam

## EXECUTIVE SUMMARY

This report aims to present the results of PACINNO project research concerning the recommendations for new innovation policies in the Adriatic Region countries to policy makers as well as to promote positive changes in policy makers' decision making processes by co-shaping and helping improve regional innovation policies. The main motivation for this research can be found in the fact that this region lags significantly behind the rest of the EU countries, in terms of innovation capacities (policies, technological capacities of innovative players, networking etc.); therefore, this report provides a new ground to innovation policies aimed at creating a more innovation-favorable environment.

The necessity for the development of specific innovation policy recommendations is of crucial importance bearing in mind that this Region has not received sufficient attention in the studies of innovation systems. The main feature of the majority of Adriatic Region countries is that they are transition economies, which means that most of them are lagging behind the EU average. Furthermore, it is important to highlight the manner in which this transition has been carried out. Unlike in other countries of the Eastern Europe, where the collapse of the socialist system has been carried out peacefully, in most countries of the Adriatic Region, former Yugoslavian republics, this transition was followed by several years of warfare, which as a consequence brought, amongst other things, migration of many scientists, engineers and other highly skilled personnel.

The PACINNO project research work has resulted in seven reports which provide, for the first time, a comprehensive overview of innovative activities in the Adriatic Region, on micro, meso and macro levels. All the conducted project activities have contributed to better understanding of the specificities of the Adriatic Region innovation eco-system and the identification of its drivers and inhibitors. Also, through numerous practical activities PACINNO has helped increase the innovation capacity of the Adriatic Region and enabled the transfer of best practices across particular countries of the Region.

The report on recommendations for new innovation policies has been structured around three key challenge areas: (1) existence of a general strategy, adoption of strategic approach and ensuring continuity and stability of research and innovation policies; (2) development of critical mass of research and innovation competencies and capacities; and (3) fostering collaboration on research and innovation.

In order to obtain a more comprehensive image of the overall situation in the Region in terms of innovation capacities, PACINNO researchers have, in addition to the collection, compilation and analysis of vast sets of quantitative data, conducted 50 in-depth semi-structured interviews with key informants – entrepreneurs, policy makers, academics and intermediaries in eight countries of the Adriatic Region.

With regards to the first key area, lack of general strategy and continuity of research and innovation policies, there are several identified challenges: lack of strategy and strategic thinking, absence of focus and clearly set objectives in existing policies, lack of political will for changes, poor internal management and capabilities, lack of coordination between different responsible bodies, lack of evaluation of already implemented measures, lack of analytical methods when drafting and implementing new policies, high level of bureaucracy, lack of continuity and preservice as well as frequent political changes followed by the low level of institutional trust. Based on these challenges, the PACINNO consortium has generated eight specific policy recommendations for the Adriatic Region.



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In terms of development of critical mass of research and innovation competencies and capacities, the second key challenge area, several issues that should be tackled have been identified. There is a lack of critical mass of companies that introduce R&I, followed by the lack of funding targeting various phases of innovation development as well as the low usage of public funds. Moreover, there is a lack of qualified personnel, including inadequate skills of startup entrepreneurs. In addition, Adriatic Region companies have relatively low degree of internationalization. Based on these challenges, PACINNO researchers have proposed seven policy recommendations for the Adriatic Region.

Regarding the third key challenge, fostering collaboration on research and innovation, the research pointed to low degree of both, intra-collaboration, among the key stakeholders of the innovation system within the Region, and inter-collaboration, between the Adriatic Region as a whole and the rest of the world. One of the fundamental inhibitors of innovation performance of the Adriatic Region is a substantial lack of long-term and systematic cooperation between research institutions and industry, as well as poor performance in academic-industry technology transfer. Based on the identified challenges, three policy recommendations for the Adriatic Region have been generated by PACINNO project researchers.

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## 1. INTRODUCTION

### Background: strategic importance

Innovation, as a key to the economic development of the Adriatic Region, is one of the strategic themes of the IPA Adriatic Cross-border Cooperation Programme. This programme aims to address the problem of weak level of competitiveness of the Adriatic Region countries by recognizing the need for the development of specific policies that would foster research and innovation. The emphasis is put on cross-border cooperation in sharing the best practices and improvement of innovation strategies.

The need for development of specific innovation policy recommendations is of utmost importance knowing that the Adriatic Region has so far not received sufficient attention in the analyses of innovation systems and particularly in the light of facilitating the non-EU member countries of the Adriatic Region in their accession to the European Union and inclusion into the European Research Area (Marinkovic and Dall, 2014). In this regard, it must be considered that countries of the Adriatic Region share numerous historical, social, political and cultural features, but are not a homogenous group. This is why certain differences have to be taken into account when studying the Adriatic Region and proposing actions or solutions to solve its specific challenges.

The majority of Adriatic Region countries are transition economies, which have been lagging behind the rest of the EU. The specific economic situation in this region is a consequence of a number of events that took place in the recent history. After the collapse of the socialist system and several years of the warfare (Italy excluded and partly Slovenia), these countries were going through the transition process (government regulation to market economy; socialism to parliamentary democracy, etc.). Amongst many other problematic consequences that happened as a result of the war events during the 1990s, one very important consequence was also the migration of many scientists, engineers and other highly skilled personnel, which left disastrous consequences in the field of science, compromising research capacity of this region for many upcoming years (Radosevic, 2004; World Bank, 2013).

As stated in the report by the European Commission (2013), in tackling the identified issues of weak innovation performance, poor economic performance, lack of qualified human resources as well as different environmental challenges, new macro-regional strategies should focus **on a limited number of well-defined objectives** which should be implemented through a clear Action Plan in order to make the best use of existing institutions, legislation and funds. In line with this is the most recent European Union's Strategy for the Adriatic and Ionian Region (EUSAIR) ("EU Strategy for the Adriatic and Ionian Region - Regional Policy - European Commission" 2014), which focuses on "Strengthening R&D, Innovation and SMEs" and "Capacity building" as key horizontal objectives to be implemented across its thematic pillars.



## **PACINNO project results as a basis for new policy recommendations**

**PACINNO** (Platform for trans-Academic Cooperation in Innovation) is a project co-financed by the IPA Adriatic Cross-border Cooperation Programme. PACINNO has been conducted in the period from 2013-2016 through the cooperation of eight participant countries of the Adriatic Region: Greece, Italy, Montenegro, Bosnia and Herzegovina, Serbia, Albania, Slovenia and Croatia. The main project **goal** has been to **establish a platform for cooperation of academic institutions in research and innovation** covering the whole Adriatic Region.

The PACINNO project targets three stakeholder groups: **researchers, entrepreneurs and policy makers**, through three key areas of action: **research of innovation, training of human resources and knowledge and technology transfer**.

The first action area has included a systematic collection, analysis and comparison of data on innovation activities, innovation determinants and innovation policies in and across the countries of the Adriatic Region. Multiple data collection methods have been used by PACINNO research team, including surveys, case studies, action research, interviews and database search. The research work has resulted in **seven reports** which provide **for the first time a comprehensive overview of innovation activities in the Adriatic Region**, on micro, meso and macro levels: (1) Report 4.1 on the survey of innovative companies; (2) Report 4.2 on in-depth multi-level analysis of employees of innovative companies; (3) Report 4.3 on in-depth case studies of innovative companies; (4) Adriatic Innovation Systems Maps (available at <http://www.adriaticinnovationmap.eu/>); (5) Report 5.5 on regional innovation policy and benchmark analysis; (6) Report 6.1 on analysis of innovation chain of enablers and inhibitors in the Adriatic Region; (7) Report 6.3 on social innovation and social entrepreneurship in the Adriatic Region. All the reports can be accessed at the PACINNO project web-site ([www.pacinho.eu](http://www.pacinho.eu)) and PACINNO Virtual Platform ([vp.pacinho.eu](http://vp.pacinho.eu)). Some of the reports contain completely new data for the Adriatic Region, which have been collected by PACINNO researchers.

Within the second action area, a new **managerial programme specifically tailored for scientists** (MBSDr) has been developed and implemented in two generations, comprising the training of **over 40 Adriatic Region researchers** in entrepreneurial, business and managerial skills. The training took place in Ajdovscina, Slovenia.

The third action area has included a variety of **practical knowledge transfer activities** in all Adriatic Region countries: training of start-up entrepreneurs, organization of demo days, various workshops and networking events and the regional investment conference in Corfu, Greece; establishment and strengthening of eight technology transfer offices in the Adriatic Region; implementation of pilot projects targeting innovative start-ups and small and medium enterprises (SMEs). Overall, the PACINNO project activities have involved **more than 1.100 SMEs, 200 start-up companies and 250 young entrepreneurs**.

All the conducted project activities have contributed to better understanding of the specificities of the Adriatic Region innovation eco-system and the identification of its drivers and inhibitors. Also, through numerous practical activities PACINNO has helped increase the innovation capacity of the Adriatic Region and enabled the transfer of best practices across particular countries of the Region. The results of the project have been communicated to the key stakeholder groups at regional and international scientific conferences as well as at eight PACINNO public policy conferences organized in each country of the Adriatic Region, with the presence of prominent entrepreneurs, academics, technology transfer specialists and representatives of policy making institutions.

## **Approach: common challenges and specificities**

The report on recommendations for new innovation policies has been structured around three key challenge areas:

1. Existence of a general strategy and adoption of strategic approach, and ensuring continuity and stability of research and innovation policies,
2. Development of critical mass of research and innovation competencies and capacities, and
3. Fostering collaboration on research and innovation.

These challenge areas have been identified following the implementation of PACINNO project activities and analysis of obtained outputs and results. The PACINNO project has provided novel and detailed insights into the micro, meso and macro enablers and inhibitors of the innovation ecosystem in the Adriatic Region, which has allowed the generation of specifically suited policy recommendations. Simultaneously, the report builds on existing macro-regional, national and local policy initiatives in the Region, in that way aiming to create a synergistic effect.

In the following sections, the report elaborates on each of the identified key challenge areas, which have been addressing the Adriatic Region innovation eco-system as a whole. The report also takes into account some specificities of each country of the Adriatic Region in proposing the solutions to identified challenges.

This report is intended to serve as a valuable source of information and a guideline for decision making bodies in the process of designing new policies that would contribute to the development of a more entrepreneurial and innovation-friendly climate in the Adriatic Region.

## 1. INNOVATION POLICY RECOMMENDATION #1: Existence of a general strategy and adoption of strategic approach, and ensuring continuity and stability of research and innovation policies

The in-depth semi-structured interviews conducted by PACINNO researchers with 50 key informants - entrepreneurs, policy makers, academics and intermediaries in eight countries of the Adriatic Region pointed to the general **lack of strategy and strategic thinking** as one of the main innovation inhibitors in the Region. This lack of strategy is mostly present in two different aspects: either there is a number of different strategies in the country which prevents efficient implementation of measures, or there is no adopted strategy at all. As put forward by one of the interviewed key informants, a Croatian policy maker:

*“There is no one document, there are a lot of various strategies. When we entered the EU, we were forced to look at things differently, strategically with the long-term view. We were examined about our motives to invest in certain programs, to review indicators and see what the results of that would be. We did not function in that way until 2013. There is resistance from the staff, a resistance to learning how to plan... There is no systematic effort or support...”*

Similarly, the interview with an Albanian policy evaluator revealed:

*“Strategy objectives are too broad; goal-oriented interventions are difficult to identify, unlikely to generate expected benefits.”*

A Montenegrin policy maker confirms the similar issue for the case of Montenegro:

*“Since there was no concrete innovation policy framework established, actors were trying to support all relevant subjects as much as they could in order to create appropriate and stable community which would be able to use future national and EU funds dedicated to innovation projects.”*

A Slovenian key informant also pointed out several issues with regards to the policy implementation phase:

*“The main problems when implementing measures are: badly prepared tenders or documentation, meaning that the tenders are full of unclear statements that could be interpreted in different ways.”*

Therefore, the problem of the lack of general strategy and strategic thinking is reflected in the **absence of focus and clearly set objectives** in existing policies.

The case of Bosnia and Herzegovina is somewhat different, due to its specific administrative and political division<sup>1</sup>. Innovation policy is relatively new in B&H, since the first innovation programmes were adopted in 2007. Authorities at the country level have limited responsibilities and no competences over policy formulation and implementation at the entity level.

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

1. General innovation strategy needs to exist on the highest level of policy decision making and follow a simplified approach, with clearly set funding priorities (in accordance with the country's key competences), measurable objectives, activities, expected results, resources, timelines and responsible bodies. The Adriatic Region countries in the process of accession to the EU or that have recently become members can significantly benefit from pre-accession and structural funds in the process of adopting the strategic approach in innovation policy design, implementation, monitoring and evaluation.

Another important identified obstacle is the **lack of political will** for changes.

*"Everybody knows what can be done, but there is no political will to do it. Research results, results from the OECD analysis, EU Commission analysis, national research and analysis show that by investing in R&D you raise the quality of life and the GDP. It is the Bible. But the politics in Croatia do not recognize this."*  
(Croatian policy maker)

A lack of will for changes has also been revealed by the Greek key respondent:

*"The problem is mainly cultural. There is a lack of belief in working towards innovation since the Greek economy has not relied on such industries."*

In the Federation of Bosnia and Herzegovina, a similar issue has been emphasized by a Bosnian interviewee, who pointed out that the S&T strategy for B&H had been prepared back in 2011 but had never been officially adopted due to the lack of political commitment to support research and innovation on a larger scale as envisaged by the document.

What often prevents policy making institutions in the Adriatic Region from following a strategic approach is **poor internal management and capabilities**.

*"The complexity of the system has risen, but you are not increasing the capabilities of the responsible bodies...the biggest problem with state administration are the people. The state has issues in maintaining and developing the right talents."* (Croatian innovation system specialist consultant)

<sup>1</sup> Bosnia and Herzegovina integrates two entities: the Federation of Bosnia and Herzegovina (FBiH) and the Republika Srpska (RS).

Moreover, an Albanian policy evaluator also pointed out:

*“Generally there is a lack of initiative and some of the initiatives which are in process are inspired by foreign donors and are being implemented in analogy with the experience of other countries or through the participation in regional initiatives.”*

Furthermore, the **lack of coordination** between different responsible bodies has been identified by almost all interviewed experts as a key obstacle to efficiently managed national innovation policy system. Duplicating efforts of public bodies as well as undivided responsibilities can be connected to the lack of strategy and common goals.

*“When it comes to the recently adopted National Innovation Strategy, nothing has happened so far and no management system has been put in place, which is a precondition...the current Innovation Strategy is led by the Ministry of Economy, in cooperation with other actors, but this cooperation is not really on a good, satisfactory level....There is no coordination body, no action plan; no deadlines with specific activities, there are no funding sources identified, nothing that we could deal with...There should be coordination between all the Ministries. The innovation strategy cannot be divided among three Ministries, there is always an issue of bad coordination. They all have to be aware of the innovation challenges. It should be addressed as a key theme at the country level.”* (Croatian policy maker)

Further to this, a Serbian policy maker revealed:

*“Coordination of activities on the country level is missing. We do not need a new Ministry for this, but this function should be taken over by somebody. For example, we have financing of the private sector from four institutions – Ministry of Science, Ministry of Economy, Innovation fund and Electric Power Industry of Serbia”.*

In line with this, another key informant from Serbia, a technology transfer intermediary, pointed out concisely:

*“There is no coordination of the policies on the national level.”*

In Slovenia, the situation is not much different:

*“There is a need for more coordination, even if it is completely informal. Maybe some kind of collective body, which would coordinate the system and establish what works and what does not work.”*

An Albanian key informant provided a similar stance:

*"(...) the top challenge for the area of innovation policy is coordination. As the actors responsible for the implementation of policies belong to various economic fields, better and more effective coordination of stakeholders in the planning process and its implementation is needed."*

Another Albanian key informant stressed:

*"One big issue for the national policies in research and innovation is the insufficient partnership and networking."*

A Greek interviewee also revealed what the main problem is:

*"The most frequently noted problem refers to policies that involve the collaboration and common work of partners that are in different institutions. This is where most problems are identified and there is a difficulty in completing common work due to the lack of synchronization and communication."*

The case of Bosnia and Herzegovina also demonstrates the lack of coordination, taking into account the country's specific administration. In B&H, there are no effective coordination and cooperation mechanisms in place among different levels of government that are necessary to ensure effective implementation of the strategy at the country level.

Another illustrative example refers to the innovation and entrepreneurship support infrastructure:

*"Innovation policy is not coordinated on the country level. We currently have numerous startup incubators financed by universities, local community, government, and most of them do not act according to the standards of the global startup community." (Croatian entrepreneur)*

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

2. Innovation policy design, implementation, monitoring and evaluation need to be coordinated between different responsible actors, and not fragmented across ministries, local authorities and other decision making bodies, without clearly defined communication flows. There should be a main coordinating body of all activities.

Moreover, the obtained evidence from expert interviews indicates that policy makers rarely consult all stakeholders in the innovation eco-system when formulating new strategic documents.

*“The calls for proposals for funding entrepreneurs are not actually designed for entrepreneurs. The entrepreneur needs to adjust its needs to the requirements of the calls, and it should be the other way around...Our politicians are not listening to the advice that comes from the country, but are looking for advice from foreign consultants from developed states. We have the information, but they do not trust us, they would rather trust a foreign consultant to implement it.” (Croatian entrepreneur)*

An Albanian key respondent provided similar views:

*“According to the reports that the Albanian Center for Economic Research (ACER) prepared, the lack of collaboration and involvement of some important institutions in the process of planning was continuously indicated as a main issue.”*

The lack of cooperation between stakeholders is also put forward by a Slovenian key informant:

*“All these policies are created on the level of government bodies. They prepare all that and government confirms it. I think it would be much better if there was more cooperation in the preparation of the programs. If in this phase different stakeholders like us would be involved, we/they could help when preparing measures, applications...”*

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

3. Innovation policy formulation must involve all relevant stakeholders in the process: policy making institutions, policy execution institutions, users and policy evaluators, and all aspects of the process (for example, administrative procedures and forms) need to be harmonised across different actors and time.

Likewise, policy makers often do not rely on systematic evaluations of already implemented measures as well as on analytical methods when drafting and implementing new policies. This point has also been discussed in the policy recommendations in the OECD Innovation Policy Review of Croatia (2013), which suggest that policy learning must comprise a rigorous system of policy intelligence, including rules and procedures for planning, monitoring and evaluation as well as associated time horizons.

*“On the state level, there is no scientific approach.”* (Croatian innovation / technology transfer intermediary)

*“Lack of capacities to evaluate and monitor scientific projects and introduce statistical standards”* (a statement by an Albanian policymaker when asked about the top challenges for the national innovation policy).

A Greek key informant highlighted:

*“Previous policies made it hard to examine through quantitative and qualitative measures if they had been beneficial. In addition, there is very little information from the national statistics agency so it is almost impossible to have solid evidence.”*

An Italian interviewee pointed that, given the novelty of many policy measures, the assessment is quite anecdotic, and not really objective (e.g. on start-ups feedback).

In Serbia, the lack of evaluation is also mentioned as a problem, as indicated by a Serbian policy maker:

*“Indicators formally exist, they are defined but not all of them are measured. We have yearly reporting on results of programs, as well as the experts opinions about the project, but not all of the reports are studied or analysed in detail.”*

Bosnian key informants agreed that implementation-wise, the country-level innovation policy programmes are not fully in line with the objectives and priorities set out in the policy documents, apart from the support to international collaboration. Taking this into account, it is almost impossible to assess the policy impact and its effectiveness on the country level, other than considering the policy impact on research collaboration activities. Moreover, one of the key findings of the interviews conducted in Bosnia and Herzegovina was a significant lack of systematic and effective evaluation of the research supporting programmes, ex-post evaluation with poorly/generically defined evaluation criteria.

**Based on the identified problems, the following recommendations are generated for the Adriatic Region:**

4. The internal capabilities of decision making institutions must be strengthened and additional funds should be invested in the systems for monitoring and evaluation of adopted and implemented innovation policies.
5. Innovation policy formulation process must follow the analytical, scientific approach, i.e. be based on rigorous method and collected empirical evidence on innovation enablers and inhibiting factors.

Next, a high level of bureaucracy has been identified by several experts as a significant inhibitor of an efficient innovation system:

*“The bureaucracy is making it difficult. Internally, can we address the problems?” (Croatian innovation / technology transfer intermediary)*

A Greek policy maker also reveals:

*“We don't have enough flexibility in spending due to the supervising authority, and even in cases where a budget reallocation is needed, it takes too long.”*

In Slovenia, bureaucratic complexity is a major issue as well, as pointed by a Slovenian key informant:

*“The problem with all these schemes like SPS and SID bank is the level of bureaucracy that goes to the extent where it has no connection with real life. Concretely, the P2 scheme reimburses companies for the invoices already paid. In other words, I need to have the money, pay the salaries, pay the suppliers and then after a few months I get the money back.”*

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

6. The administrative burden for users of adopted measures (incentives, grant funding programmes) should be reduced and clearly measurable.

On the positive side, the experts from the Adriatic Region countries that are in the process of accession to the European Union or that have only recently become members view the availability of EU pre-accession and structural funds as an important innovation enabler and an excellent opportunity to increase the efficiency of the national innovation systems and satisfaction of their needs through adoption of the strategic approach and systemic thinking in policy formulation, implementation and evaluation as well as allocation of public resources for innovation.

Another positive policy trend identified in some Adriatic Region countries is the presence of an entrepreneurial model - the change in focus towards the entrepreneur as the center of the innovation system. This is in line with the strategic orientation of the latest European Union research funds in HORIZON 2020 programme. One example is the Entrepreneurial impulse programme in Croatia, a set of incentives specifically targeting SMEs.

Still, with regard to the implementation of innovation policy as well as measures aimed to foster innovation capacities in the public and the business sector, Adriatic Region countries face great obstacles in terms of **continuity and perseverance** of such policies as well as the stability of the system to adequately support long-term innovation growth.

The unsurmountable ethnic and religious segmentation that continuously fuels the political instability in certain parts of the Region, the hampered construction of institutions of the legal state with a lot of economic difficulties and lagging behind the Western Europe, remain continuing challenges to the stability of most of the Adriatic Region countries.

The **frequent political changes and the low level of institutional trust** as well as the level of trust in the society reflect a specific cultural and historical background. The resistance to necessary changes that supports the *status quo actually* disables the growth of the system and creates an atmosphere of uncertainty. This keeps being reinforced by the same communication and management structures or the non-existence of such structures, regardless of the implemented measures for innovation and the existence of infrastructure (see PACINNO 6.1 Report on innovation chain of enablers and inhibitors). In addition, the implemented policies cannot go through an evaluation process due to their ties with political institutions and groups of people, and their disconnection from the goal. The sense of entitlement of the political leadership over institutions and positions of power in the society creates a destabilizing environment.

There are numerous examples of innovation actors, initiatives and support measures in the Adriatic Region that were evaluated as extremely successful by their users, which were however later discontinued or abandoned following the change of the governing political parties. With every change of the Government, new measures, policies and rules are being brought, having instability and loss of resources as a consequence.

Information obtained by conducting expert interviews confirms the problem of discontinuity and instability with regard to the research and innovation policies.

An Albanian key respondent revealed:

*“Unfortunately, each time we have political rotation, the prioritizations of the relevant and responsible institutions for innovation, R&D, etc. are changed. I can say they have been enough successful in identifying the obstacles, but in my perspective this has not been the same on successfully overcoming them.”*

A Croatian interviewee pointed, on this track, to challenges for Croatian innovation policy:

*“Coordination, building consistent technological policy and building better market position through increasing export.”*

INDICATOR		ABSOLUTE NUMBER/INDEX
Ease of starting a business	Regional mean	<b>84,18</b>
	EU 28 mean	85,78
<b>Ease of resolving insolvency</b>	Regional mean	<b>46,23</b>
	EU 28 mean	64,60
Ease of paying taxes	Regional mean	<b>64,34</b>
	EU 28 mean	78,97
Political stability index	Regional mean	<b>67,23</b>
	EU 28 mean	85,44
<b>Government effectiveness index</b>	Regional mean	<b>44,82</b>
	EU 28 mean	69,60
Press freedom index	Regional mean	<b>74,10</b>
	EU 28 mean	83,66
Regulatory quality index	Regional mean	<b>58,13</b>
	EU 28 mean	80,71
<b>Rule of law index</b>	Regional mean	<b>50,26</b>
	EU 28 mean	78,00
Cost of redundancy dismissal, salary weeks	Regional mean	<b>25,03</b>
	EU 28 mean	13,34
Ease of protecting investors	Regional mean	<b>56,19</b>
	EU 28 mean	57,78
Business sophistication	Regional mean	<b>33,89</b>
	EU 28 mean	42,90

Table 1 Innovation system dimension - Institutions <sup>2</sup>

Source: World bank; PACINNO Report 6.1 on analysis of innovation chain of enablers and inhibitors in the Adriatic Region

<sup>2</sup> The participating partners from eight countries of the Adriatic Region simultaneously collected the data available for their countries in the period from July to November 2014. The data refer to the period from 2011 to 2013.

Furthermore, when collecting the quantitative data for the innovation system dimension of institutions (see PACINNO 6.1 Report on innovation chain of enablers and inhibitors for more detail), as demonstrated in Table 1, various indicators were taken into account: ease of starting a business, ease of resolving insolvency, ease of paying taxes, political stability index, government effectiveness index, press freedom index, regulatory quality index, rule of law index, cost of redundancy dismissal, salary weeks, ease of protecting investors and business sophistication. Adriatic Region average was compared to the EU 28 average.

The biggest discrepancy was evident in **the rule of law** index, **ease of resolving insolvency** and **government effectiveness index**, where EU 28 mean leads by approximately 25 index points. An almost equal index is shown for two indicators – **ease of starting a business**, where the regional mean amounts to 84,18, while the EU 28 mean holds the value of 85,78; and **ease of protecting investors**, where the regional mean holds the value of 56,19, while the EU 28 mean amounts to 57,78. **Cost of redundancy dismissal, salary weeks** is the only indicator in which the regional mean (25,03) holds a better position than the EU 28 mean (13,34).

**Based on the identified problems, the following recommendations are generated for the Adriatic Region:**

7. Policy agents and general innovation strategy planning should span beyond and be independent of the political structure, which represents the first step towards improving the overall innovation system framework.
8. Innovation must be among the top priorities in the countries, not only declaratively. Bottom-up initiatives should be encouraged, starting from the youngest populations, from entrepreneurship initiatives in school projects to innovation challenge competitions.

SUMMARY OF POLICY RECOMMENDATIONS
Innovation must be among the top priorities in the countries, not only declaratively
General innovation strategy needs to exist on the highest level of policy decision making and follow a simplified approach
Innovation policy design, implementation, monitoring and evaluation need to be coordinated between different responsible actors
Innovation policy formulation must involve all relevant stakeholders during the whole process
Innovation policy formulation process must follow the analytical, scientific approach
The internal capabilities of decision making institutions must be strengthened and additional funds invested in the system for monitoring and evaluation of adopted and implemented innovation policies
The administrative burden for users of adopted measures should be reduced and clearly measurable
Policy agents and general innovation strategy planning should span beyond and be independent of the political structure

## 2. INNOVATION POLICY RECOMMENDATION #2: Development of the critical mass of research and innovation competencies and capacities

A significant lack of research and innovation (R&I) competencies and capacities in the Adriatic Region was identified following the extensive analysis conducted by PACINNO researchers on micro, meso and macro levels. The micro-level data were collected from 787 employees from 73 departments of 20 firms in eight countries of the Adriatic Region, whereas the meso-level data were collected from 1.165 Adriatic Region micro, small and medium enterprises, using the survey questionnaire based on the Oslo manual and the Community Innovation Survey (CIS) methodology as well as constructs from the most recent innovation, management and marketing academic literature. The macro-level data were gathered through screening of numerous international (EUROSTAT, World Bank, Total Economy Database, Innovation Union Scoreboard, OECD, Global Innovation Index, EU CORDIS, eCORDA, Global Entrepreneurship Monitor, SCImago) and national databases, and categorized into 10 innovation dimensions.

Generally, looking at the innovation system specificities of Adriatic Region countries at the macroeconomic level, **Italy** lags behind the Region and EU 28 mean in many dimensions – education system, public and private sector, funding, linkages and some indicators in general economic data. In contrast, human resources, entrepreneurship & SMEs, scientific output and institutions are innovation system dimensions in which Italy performs better than the Regional mean, and in some even better than the EU 28 mean. **Slovenia** shows better performance in all dimensions, in comparison to the Adriatic Region mean, and in many of them Slovenia is ranked higher than the EU 28 mean.

Regarding the other countries of the Adriatic Region, the situation is more or less similar. **Croatia** performs worse than the regional mean in 5 dimensions: economic data, private sector, funding and linkages. In 3 dimensions, human resources, institutions and scientific output, it has some indicators that are ranked higher and some that are ranked lower than the regional average. Moreover, in 2 dimensions, education system and public sector, Croatia performs better than the regional mean, however, worse than the EU 28 mean.

**Greece** performs worse than the regional mean in 5 dimensions: economic data, private sector, linkages, entrepreneurship & SMEs and institutions. Education system and scientific output are the 2 dimensions in which Greece performs better than the regional mean, while human resources, public sector and funding have some indicators that are ranked higher and some that are ranked lower than the regional average.

**Serbia** performs worse in 6 dimensions: economic data, human resources, education system, private sector, funding and linkages. Only 2 dimensions in Serbian case are above the regional mean – public sector and institutions. Entrepreneurship & SMEs and scientific output have some indicators that are ranked higher and some that are ranked lower than the regional average.

In the case of **Albania**, 6 dimensions are ranked lower than the regional mean in all indicators: economic data, public and private sector, funding, linkages and scientific output. Regarding the education system indicator, it is more or less equal to the regional mean, while human resources dimensions as well as institutions have some indicators that are ranked higher and some that are ranked lower than the regional average. In contrast, entrepreneurship & SMEs and linkages dimensions are ranked above the regional mean.

**Montenegro** also has variegated situation. The total of 5 dimensions (economic data, public and private sector, funding, and entrepreneurship & SMEs) is ranked lower than the regional mean for all indicators. Education system and institutions are the 2 dimensions which are ranked above the regional mean, while education system and institutions have some indicators that are ranked higher and some that are ranked lower than the regional average.

Finally, **Bosnia and Herzegovina** does not have a single dimension ranked above the regional mean in all indicators. In 8 dimensions Bosnia and Herzegovina performs worse than the regional mean: economic data, human resources, education system, public and private sector, funding, scientific output, and entrepreneurship & SMEs. Linkages and institutions have some indicators that are ranked higher and some that are ranked lower than the regional average.

More specifically, at the meso level of investigation, a **lack of a critical mass of companies that introduce R&I** was identified. In the conducted survey, PACINNO researchers focused on four types of innovation in companies: product, process, organizational and marketing.

Large variations were identified between particular countries when it comes to the introduction of **product innovations**, which to a certain extent may be attributed to the characteristics of the samples. The largest share of product innovators was shown for BiH, Italy and Serbia. On the other hand, in Montenegro, Croatia and Greece the majority of respondents declared the absence of product innovation in the period from 2011-2013. The data also showed that the main portion of the Adriatic Region product innovators' turnover came from unchanged products.

The situation is somewhat better when it comes to **process innovation**, where a significant number of Adriatic Region respondents implemented at least one of the three forms of process innovation. Slovenian, Albanian and Bosnian and Herzegovinian companies are ranked above the regional average in terms of introducing process innovation. Italy and Croatia are more or less in line with the regional average, while Greece demonstrates mixed results, being stronger than the Adriatic Region in some respects but weaker in others. Serbian and Montenegrin sample lag behind the regional average in this respect.

Concerning **organizational innovation**, the results indicate that Adriatic Region companies mostly engage in regular renewal of organizational rules and procedures, regular investment in the development of structure so as to make the most of their employees as well as in providing their employees with the possibility to pursue different roles within the organization. On the other hand, update of compensation policies and regular change of objectives setting methods are among the least favoured activities at the Adriatic Region level. Moreover, in contrast to Italian and Slovenian respondents, in Croatia and Montenegro respondents did not frequently change employees' tasks or introduce new management systems. In Greece, Italy and Slovenia, companies gave low rankings to restructuring of intra-departmental communication systems. The mean value of the overall organizational innovation construct is 4,51 (on a scale from 1 to 7), which points to average results and significant potential for improvement of Adriatic Region companies' practices in this innovation category.

Somewhat better results are obtained for introduction of **marketing innovation**, with the mean value of the construct of 4,65. In all countries in the sample, the respondents most highly rated their timely and proper dealing with customers' suggestions and complaints. Also, the respondents in all countries gave the lowest ranks to competitive marketing innovations (entering new markets, new pricing and distribution methods).

With regard to the interviewed key informants, many of them pointed to similar issues in terms of a lack of critical mass of research and innovation competencies and capacities.

An Albanian interviewee mentioned the problems Albania dealt with:

*“Lack of research orientation towards economic and social needs, low scientific output, as well as low technological level of SMEs and staff competencies”.*

According to a Serbian key informant, there is a substantial lack of critical mass in R&I competencies also in Serbia:

*“...lack of human resources/competencies due to restrictions in employing new people. As a result, one person is responsible for many programmes and it is difficult to monitor the execution. Also, there is a lack of IT tools for collecting the planned monitoring indicators”.*

Furthermore, a Croatian policy maker highlighted:

*„We have a low innovation capacity, low results, low potential for the development of the economy, it is obvious.”*

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

1. New policy instruments should separately consider product, process, organizational and marketing innovation in small and medium enterprises as it is shown that Adriatic Region companies underperform in particular types of innovative activities.

Next, Adriatic Region enterprises perceive the **lack of funding** as a significant innovation inhibitor.

More precisely, as shown on Figure 1, the most important perceived factor that prevents Adriatic Region companies from innovating is high innovation cost, followed by the lack of internal funds and the uncertain demand for innovative goods or services. On the other hand, the factor that hampers the least the innovative activities within companies is the attitude that there is no need for innovation due to prior innovations by the company. The comparison of responses in particular countries points to some differences in perceptions: while all three finance-related hampers (lack of internal funds; lack of external funds; too high innovation costs) have the biggest importance in B&H and Montenegro, Croatian, Greek and Serbian respondents place the perception of the market as already dominated by established companies in the top-three innovation hampers. Furthermore, Greek, Italian and Slovenian respondents assign relatively higher importance to uncertain demand for innovative goods or services compared to respondents from other countries. In contrast to Serbian companies, Albanian respondents very highly rank the lack of qualified personnel, while Italian companies perceive the difficulty in finding the cooperation partners for innovation as one of the most important hampers. Taking into consideration all of the aforementioned factors, it is clear that what hinders innovation within a company the most is not a lack of interest for innovation, but rather the lack of financial sources to encourage innovative spirit and implementation of innovative ideas.

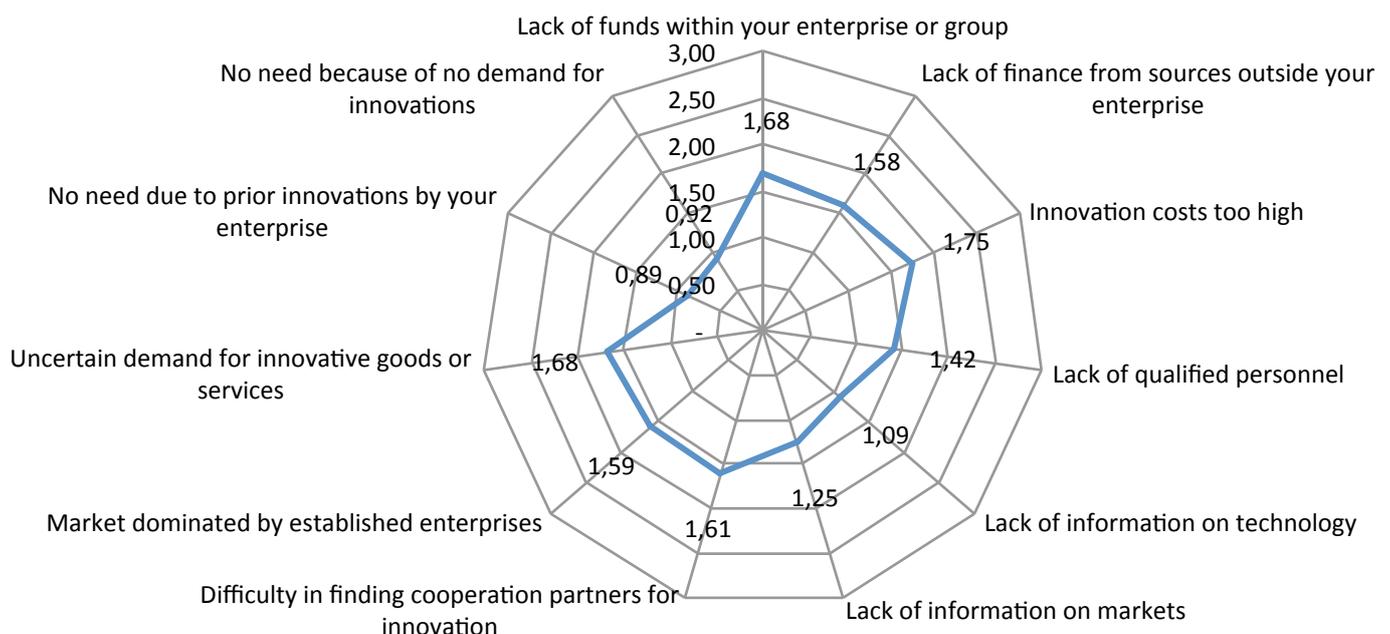


Figure 1 The magnitude of innovation hampers in the Adriatic Region (scale 0 None -3 High)

Source: PACINNO Report 4.1 on the survey of Adriatic Region innovative companies

Furthermore, when looking at quantitative macro-level data, with regard to funding, as shown below in Table 2, Adriatic Region countries lag behind the EU 28 average in most of the observed indicators. Table 2 presents the data for funding as an important innovation system dimension, and it compares the Adriatic Region mean to the EU 28 mean in gross R&D expenditure (GERD) in the country funded by the private sector, public sector, higher education sector, GERD funded from abroad, total GERD in the country, as well as the ease of getting credit and domestic credit to private sector. The biggest discrepancy is evident in total R&D expenditure in the country (as a percentage of GDP), where the difference is 0,64 percentage points in favour of the EU 28 mean (2,07%). Adriatic Region is ranked better with regards to the ease of getting credit with the index of 63,31, while the EU 28 index amounts to 61,54.

VARIABLE		MIL. EUR	% OF GDP
GERD funded by the private sector	Adriatic Region mean	<b>1.680,46</b>	<b>0,63</b>
	EU 28 mean	145.381,16	1,13
GERD funded by the public sector	Adriatic Region mean	<b>1.608,50</b>	<b>0,61</b>
	EU 28 mean	87.441,19	0,68
GERD funded by the higher education sector	Adriatic Region mean	<b>49,50</b>	<b>0,02</b>
	EU 28 mean	2.457,37	0,02
GERD funded from abroad	Adriatic Region mean	<b>361,81</b>	<b>0,14</b>
	EU 28 mean	24.974,73	0,19
Total Gross R&D expenditure in the country (GERD)	Adriatic Region mean	<b>3.804,99</b>	<b>1,43</b>
	EU 28 mean	266.886,65	2,07
		<b>Absolute number/Index</b>	
Ease of getting credit	Adriatic Region mean	<b>63,31</b>	
	EU 28 mean	61,54	
Domestic credit to private sector, % of GDP	Adriatic Region mean	<b>77,03</b>	
	EU 28 mean	/	

Table 2 Innovation system dimension - Funding <sup>3</sup>

Source: Eurostat, ERAWATCH; PACINNO Report 6.1 on analysis of innovation chain of enablers and inhibitors in the Adriatic Region

<sup>3</sup> The participating partners from eight countries of the Adriatic Region simultaneously collected the data available for their countries in the period from July to November 2014. The data refer to the period from 2011 to 2013.

Moreover, the interview with a Montenegrin key informant revealed that the lack of funding is a serious issue, especially in the start-up community:

*“Up to now, the biggest problem was to gather the financial funds that start-up companies are missing. Due to this lack, through the measures that are under the jurisdiction of the capital city, we have tried to compensate this problem with the adopted incentives. Also in communication with other state bodies, primarily the Investment and Development Fund, we have been working on defining possible credit lines, which will enable increasing of the number of successful start-up companies.”*

The next identified innovation inhibitor is **low usage of public funds** as well as the lack of appropriate funds targeting various phases of innovation development. The majority of Adriatic Region respondents (80%) did not receive any kind of public financial support for innovative activities in the period from 2011-2013. This is in line with the previously indicated lack of funds as an important barrier to the innovation activities.

On the Adriatic Region level, the respondents report most support from the local and regional authorities (in 14% of cases), followed by central government (9%) and EU (only 6% of respondents). However, the results vary across countries: local and regional authorities are the most frequent source of support in Greece (26% of respondents), Italy (23%), Croatia (12%) and Montenegro (10%). On the other hand, the central government is the most frequent source of support in Slovenia (35% of respondents), Serbia (20%), Albania (10%) and B&H (6%). The support from the EU is reported to the greatest extent by Slovenian (18% of respondents), Greek (14%) and Serbian (14%) companies and to the lowest extent by Montenegrin (0%), Bosnian and Herzegovinian (3%) and Croatian (6%) respondents.

Conducted interviews also identified the low usage of public funds as one of the important innovation inhibitors. For example, an Albanian key informant revealed:

*“Participation in European projects has obviously been too low, which is due to several problems and lack of achievements. It was not adequately supported through proper coordination bodies, sufficient financial resources to national institutions to prepare competitive applications. And, the scientific institutions have not had proper stimuli to prepare and be committed to applying for European projects. The active participation in the regional and international scientific networks has long been neglected.”*

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

2. Policy instruments or tools (competitive grants, tax incentives, etc.) for funding of innovative companies should be carefully planned based on the specific needs of companies with the highest potential (e.g., to address the proof-of-concept funding gap; for development of new products and services; for training of personnel), i.e. developed using the bottom-up approach.

As suggested by one of the experts during the conducted interviews:

*"The support programs have to be tailored....so that they can ensure a high number of new jobs... involving highly skilled labour force, probably also from abroad, that could bring new knowledge and then also an additional thousand people would somehow benefit from that – there is a spillover effect."*

This approach has also been elaborated in the report of the European IMPROVE project on innovation management, where the authors clearly state the need for better selection of SMEs in need of innovation funding (Diedrich, 2013).

A **lack of qualified personnel** has been identified as an important innovation inhibitor in the Adriatic Region, not only based on the survey of SMEs, but also following the analysis of a large set of quantitative data on the macroeconomic level by PACINNO researchers. The low level of personnel with required qualifications and high levels of unemployment, also for people with higher education, are related with the low level of university-industry cooperation and failures of the education system that trains people with lack of skills required on the labour market or that does not support the life-long learning concept in order to prepare the individuals for the positions that are available on the market. In addition, there is a lack of wage-equality in this part of Europe when compared to other EU countries, with higher qualified people being drawn to Western Europe countries for the possibility of better pay and ability to improve and progress in their career path, contributing to the weakening of knowledge base available in these countries (additional quantitative indicators are available at <http://www.adriaticinnovationmap.eu/>).

The analysis of micro-level data obtained from a survey of 787 employees of Adriatic Region companies also points to high levels of **uncertainty avoidance** and relatively low levels of **entrepreneurial and intrapreneurial intentions**, which is indicative of the existence of the risk-averse culture in the Adriatic Region.

The interviews with key informants also revealed the problem of **inadequate level of skills of potential or startup entrepreneurs:**

*"The biggest problem is that out of 100 startup applications for the incubators, 90 of them do not know how to present themselves, their product. They need mentoring, advice. For example, you have startups that have great traction and do not know how to present themselves."* (Croatian entrepreneur)

A Montenegrin key informant pointed out:

*"There is a problem with the lack of knowledge and experience, as well as the low level of productivity and competitiveness."*



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A Serbian key informant also revealed:

*“We need matching of competences of applicants and competences of experts. We need more experts to visit Serbia for the knowledge transfer”.*

The PACINNO project has provided extensive training of more than 200 start-up companies and more than 250 young entrepreneurs, through two generations of startup training and numerous workshops and events, such as Startup Live Tirana and Innovation Academy in Albania, Startup Challenge in B&H, Innovation Academy in Greece, PACINNO STARTUP in Croatia and COINVEST and Labirint Festival in Slovenia. It is important to note that many of these activities were merged with already existing initiatives promoting innovation and entrepreneurship in the Adriatic Region, thus creating the synergistic effects.

When it comes to the innovation capacities, in the PACINNO quantitative research, several indicators were taken in consideration when measuring the scientific output dimension – number of SCIMAGO scientific journal articles, citable documents H index, number of WIPO patent applications as well as the number of WIPO trademark fillings. In some countries of the Region, the number of SCIMAGO scientific journal articles was ranked rather well, almost equal to EU 28 mean. However, in terms of the citable documents H index, the ranking was less favourable. Therefore, it is highly important to take into account all indicators before bringing the conclusion how a certain country or a region stands with regards to the scientific excellence.

**Based on the identified problems, the following recommendations are generated for the Adriatic Region:**

3. New policy instruments should be particularly focused on the training of personnel to meet the needs of the innovative companies and market trends. The same refers to the training of expert personnel (mentors) in innovation support institutions, such as incubators.

This recommendation refers to the “teach the teacher” approach. As suggested by one of the interview respondents:

*“Local initiatives can be boosted by adjusting the curricula of the best incubators and accelerators in the world to the local environment. One of the ideas is to invite mentors from local incubators to established institutes’ sessions, in order to observe the process.”*

4. More support to human resources, both before and after entering the job market, is needed, by using the cross-border funds (e.g. Interreg) to support programs such as joint PhDs or Post-docs, Adriatic vocational training, etc.
5. Supporting action research and pilot projects represents a valuable policy tool.

As a good practice example, within the PACINNO project, in-depth action-oriented case studies were conducted with the purpose to **enhance the knowledge about the processes driving creativity and innovation in selected companies in the Adriatic Region** and propose (facilitate) interventions that would contribute to increasing the competitiveness of the participating companies. The activity featured a series of collaborations between research institutions and innovative, internationally-oriented start-ups or SMEs in the Adriatic Region. In particular, researchers from eight countries in the region collaborated with 16 prudently selected companies. The collaboration between researchers and companies was intense and lasted between 5 months and a year. Cumulatively, researchers involved in this activity made 93 site visits, 119 interviews with firm representatives and a number of informal interviews, talks, phone-calls, conferences and other ways of communication with company representatives. The in-depth case studies in each Adriatic Region country as well as the cross-case and cross country analysis resulted in insightful study that tackles the scope and domain of micro-foundations of innovation (see PACINNO Report 4.3 on in-depth case studies of innovative companies). Together with generating comparable and practically strong case studies, **PACINNO researchers transferred their knowledge to the selected innovative SMEs.**

Furthermore, Adriatic Region companies are shown to have relatively **low degree of internationalization**, as the majority of companies (more than 70%) either do not export at all or export to up to five countries. Here, significant differences exist between particular countries, with Serbia, Italy and Slovenia showing a considerable degree of internationalization compared to relatively poor results of Montenegrin and Croatian respondents. The country-level results vary also regarding the territorial aspects of internationalization, and show greater presence of Albanian, Bosnian and Herzegovinian, Montenegrin, Serbian and Slovenian companies on the Adriatic Region market than on Western and Central European markets, even though on the level of the total sample, significantly more revenue is generated in Western and Central Europe (12%) than in the Adriatic Region (7%).

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

6. New policy instruments should be particularly focused on supporting internationalisation of Adriatic Region SMEs.

Taking into account the level of internationalisation in the surveyed Adriatic Region companies, as part of the WP 4, activity 4.1: Survey of innovative companies, which demonstrates a rather poor level of internationalisation, it is of a crucial importance to focus new policy documents to be more supportive towards the internationalisation of the Adriatic Region SMEs. As pointed in Proceedings of the 9<sup>th</sup> European Week of Regions and Cities (2011), internationalisation is a chance to face the social challenges of the future.

Finally, a very interesting finding of PACINNO research teams concerns the area of **social innovation and social entrepreneurship** in the Adriatic Region. The survey of Adriatic Region SMEs showed that more than a half of respondents (59%) introduced of at least one form of social innovation, or new products, services and models that simultaneously meet social needs and create new social relationships or collaborations. Moreover, social innovators are more likely to be present on the international markets and more likely to achieve higher business performance than the companies that did not introduce social innovations (see PACINNO Report 6.3 on social innovation and social entrepreneurship in the Adriatic Region). Considering that most Adriatic Region countries have not yet adopted policies that are targeting specifically social entrepreneurs and social innovators, these findings are of great importance as they point to the significant potential for development of social entrepreneurship in the Region.

**Based on the identified problems, the following recommendation is generated for the Adriatic Region:**

7. New policy instruments should consider the high potential of social innovation and social entrepreneurship for increasing the competitiveness of the Adriatic Region.

In this regard, there is a need for better coordination of all policy documents, instruments and actors responsible for social entrepreneurship and social innovation in the national innovation systems of the Adriatic Region. All stakeholders should be included in the social entrepreneurship policy design process. Another important recommendation that needs to be highlighted is the need for creation and support of specific tailor-made training and mentoring programmes for social entrepreneurs.

SUMMARY OF POLICY RECOMMENDATIONS
New policy documents should separately consider different aspects of innovative activities (product, process, organizational and marketing) in small and medium enterprises
Policy instruments for funding of innovative companies should be carefully planned based on the specific needs of companies with the highest potential
New policy instruments should be particularly focused on the training of personnel to meet the needs of the innovative companies and market trends
Specific support to highly-skilled human resources is needed, both before and after entering the job market (e.g., joint PhDs or Post-docs)
Action research / pilot projects are valuable policy tools
New policy instruments should be particularly focused on supporting internationalisation of Adriatic Region SMEs
New policy instruments should consider the high potential of social innovation and social entrepreneurship for increasing the competitiveness of the Adriatic Region

### 3. INNOVATION POLICY RECOMMENDATION #3: Fostering collaboration on research and innovation

The research of innovation in the Adriatic Region on meso and macro levels pointed to low degree of both **intra-collaboration** (among the key stakeholders of the innovation system within the Region), and **inter-collaboration** (between the Adriatic Region as a whole and the rest of the world).

According to the results of the survey of 1.165 Adriatic Region micro, small and medium enterprises, Adriatic Region-based product or process innovators more frequently perform R&D activities only in their home countries than abroad. In addition, in performing R&D they more often rely on in-house (63% of respondents) than on external activities (36%). Concerning specific R&D activities, companies are most frequently engaged in acquisition of machinery, equipment, software and buildings (41% in home country; 11% abroad; 24% both in home country and abroad) and in training for innovative activities (54% in home country; 5% abroad; 11% both in home country and abroad). On the other hand, the Adriatic Region respondents rely the least on acquisition of existing knowledge from other companies or organizations (18% in home country; 9% abroad; 15% both in home country and abroad).

Based on the identified problem, the following recommendation is generated for the Adriatic Region:

1. New policy instruments should comprise measures encouraging the cooperation of Adriatic Region companies on innovative activities with other institutions, both private and public, on Regional, EU and international levels. One example is the Western Balkans Regional fund, grown from the WBC-INCO European funded project, aimed to also serve as a source of funding for the countries that are not EU-members.

Furthermore, one of the fundamental inhibitors of innovation performance of the Adriatic Region is a substantial lack of **long-term and systematic cooperation between research institutions and industry**, as well as poor performance in academic-industry technology transfer. Most of the Adriatic Region companies are small and service-oriented, which is why external sourcing of knowledge and development of products in cooperation with others (an open innovation strategy) is critical for their competitiveness. The results of the survey of companies show (Figure 2) that on the level of the Adriatic Region, respondents rely to the greatest extent on information sources within their company or group, and to a substantial extent also on market sources, primarily suppliers and clients from the private sector. However, the respondents report the lowest level of importance of public sector educational institutions and clients in their innovative activities. On the country level, the exceptions are Serbia and Slovenia, where educational institutions are reported as quite important sources of information for innovation. In Italy and Albania, companies to a great extent also rely on conferences, trade fairs and exhibitions as innovation sources.

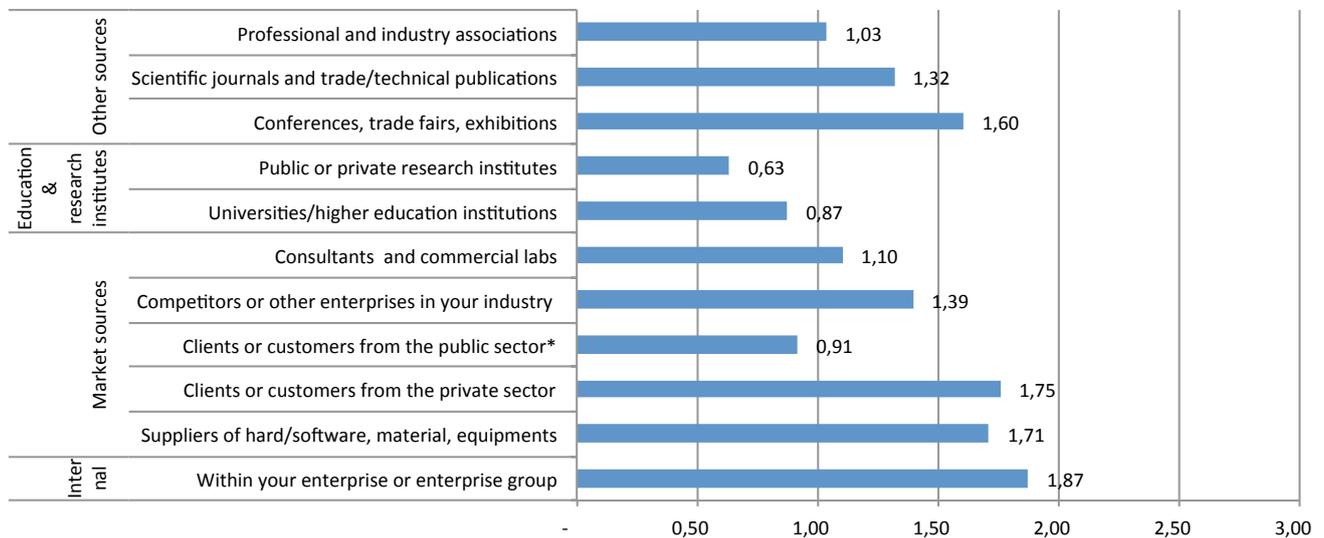


Figure 2 The importance of different sources of information on innovation: a cross country comparison (scale 0, None -3, High)  
Source: PACINNO Report 4.1 on the survey of Adriatic Region innovative companies

Overall, 29% of Adriatic Region respondents rely on cooperation with external actors in their innovative activities. Geographically, companies mostly cooperate on innovation with other companies (customers, suppliers, other enterprises in the group) in the home countries and in the Adriatic Region, except for Italian SMEs, which are more oriented to cooperation with actors from other European countries.

**Based on the identified problems, the following recommendations are generated for the Adriatic Region:**

2. Particular attention should be paid to fostering cooperation on innovative activities between companies and the academic sector.

The possible measures are multiple. As an example, academic researchers and technology transfer intermediaries should be trained to understand the business principles and the needs of the business sector. One positive or good practice example is the successful implementation of the MBSDr (Managerial-Business Skills Development Programme) in frame of the PACINNO project, which provided training in marketing, business environment, finance, intellectual property, negotiation and design thinking of 44 scientists, prospective managers in R&D academic and profit-oriented institutions in the Adriatic Region. Furthermore, applied research-oriented activities should be encouraged in existing research institutions in the Region. As suggested in the OECD report on Croatian innovation system (2013), more application-oriented research facilities jointly operated by public and private sector institutions can facilitate innovative activities, through jointly planned research activities and quality training of young researchers.

3. The promotion of pilot projects constructed of both the academia and industry partners on the local level should be encouraged.

The European IMPROVE project (Diedrich, 2013) elaborates on this recommendation in the model for SME innovation intermediaries that help foster the collaboration efforts.

Furthermore, promoting a shift from existing research networks to innovation/industrial networks is of a crucial importance. A useful policy tool for implementing such measure can be found in reserved funds for partners already collaborating (e.g. two co-publishing universities) if they present an applied innovation project with an industrial partner. Moreover, since intra-collaboration within the Adriatic Region, is very low, although slightly better in scientific activities, than on innovation, it is important to highlight the importance of fostering the collaboration between innovation support institutions of participating countries, especially by supporting technology transfer offices (TTOs).

SUMMARY OF POLICY RECOMMENDATIONS
New policy instruments should comprise measures encouraging the cooperation of Adriatic region companies on innovative activities with other institutions, both private and public, on regional, EU and international levels
Particular attention should be paid to fostering cooperation on innovative activities between companies and the academic sector
The promotion of pilot projects constructed of both the academia and industry partners on the local level should be encouraged

## CONCLUSIONS

This report presented a set of policy recommendations for new innovation policies in the Adriatic Region countries. The report is intended to serve as a valuable source of information and a guideline for decision making bodies in the process of designing new policies that would contribute to the development of a more entrepreneurial and innovation-friendly climate in the Adriatic Region. Innovation, as a key to the economic development of the Adriatic Region, is one of the strategic themes of the IPA Adriatic Cross-border Cooperation Programme. This programme aims to address the problem of weak level of competitiveness of the Adriatic Region countries by recognizing the need for the development of specific policies that would foster research and innovation. The majority of Adriatic Region countries are transition economies, which have been lagging behind the rest of the EU. The specific economic situation in this region is a consequence of a number of events that took place in the recent history. Amongst many other problematic consequences that happened as the result of the war events during the 90s, one very important consequence was also the migration of many scientists, engineers and other highly skilled personnel.

The report on recommendations for new innovation policies was structured around three key challenge areas – lack of general strategy and lack of continuity and stability of research and innovation; lack of critical mass of research and innovation competencies and capacities; and lack of collaboration on research and innovation. These challenge areas were identified following the implementation of PACINNO project activities and analysis of obtained outputs and results.

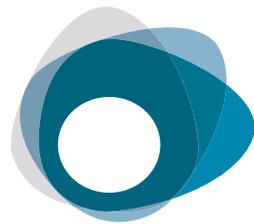
The main policy recommendations with regard to the first key challenge are: (1) innovation must be among the top priorities in the countries; (2) innovation policy design, implementation, monitoring and evaluation need to be coordinated between different responsible actors; (3) general innovation strategy needs to exist on the highest level of policy decision making and follow a simplified approach; (4) innovation policy formulation must involve all relevant stakeholders during the whole process; (5) innovation policy formulation process must follow the analytical and scientific approach; (6) internal capabilities of decision making institutions must be strengthened and additional funds should be invested in the systems for monitoring and evaluation of adopted and implemented innovation policies; (7) the administrative burden for users of adopted measures should be reduced and clearly measurable; (8) policy agents and general innovation strategy planning should span beyond and be independent of the political structure.

In terms of the second key challenge, the main policy recommendations are the following: (1) new policy instruments should separately consider product, process, organizational and marketing innovation in small and medium enterprises; (2) policy instruments for funding of innovative companies should be carefully planned based on the specific needs of companies with the highest potential; (3) new policy instruments should be particularly focused on the training of personnel to meet the needs of the innovative companies and market trends; (4) action research/pilot projects are a good practice example; (5) specific support to highly-skilled human resources is needed, both before and after entering the job market; (6) new policy instruments should be focused on supporting internationalisation of Adriatic Region SMEs; (7) new policy instruments should consider the high potential of social innovation and social entrepreneurship for increasing the competitiveness of the Adriatic Region.

With regard to the third key challenge, the following main policy recommendations were generated: (1) new policy instruments should comprise measures encouraging the cooperation of Adriatic Region companies on innovative activities with other institutions, both private and public, on Regional, EU and international levels; (2) particular attention should be paid to fostering cooperation on innovative activities between companies and the academic sector, (3) the promotion of pilot projects constructed of both the academia and industry partners on the local level should be encouraged.

## References

1. 9th European Week of Regions and Cities (2011). Conference proceedings. Brussels 2011.
2. Diedrich, E. (2016). Mastering the challenges of national and regional innovation strategy implementation. ISPIM Conference 2016 Proceedings. Porto.
3. EU Strategy for the Adriatic and Ionian Region (2014). Retrieved from: <http://www.adriatic-ionian.eu/>
4. Marinkovic, I. and Dall, E. (eds.). (2014). R&D and Innovation in Western Balkans. Moving Towards 2020. WBC-INCO.NET
5. OECD Reviews of Innovation Policy: Croatia (2013). Retrieved from: [http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oecd-reviews-of-innovation-policy-croatia-2013\\_9789264204362-en#.WATG5cl-5GU#page1](http://www.keepeek.com/Digital-Asset-Management/oecd/science-and-technology/oecd-reviews-of-innovation-policy-croatia-2013_9789264204362-en#.WATG5cl-5GU#page1)
6. Radosevic, S. (2004). A Two-Tier or Multi-Tier Europe? Assessing the Innovation Capacities of Central and East European Countries in the Enlarged EU. JCMS. 42(3), 641-666.



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REPORT 6.2.



Platform for **trans-Academic  
Cooperation in Innovation  
within the Adriatic Region**

