



Edited by Paweł Zerka

# Turning gaps into niches. For a new innovation paradigm in Central Europe.



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Warsaw 2010

This paper is the result of a series of discussions among officials, opinion makers and practitioners from Poland, the Czech Republic, Hungary and Slovakia. They included: Krzysztof Blusz, Vice-President, demosEUROPA – Centre for European Strategy; Andrzej Bobiński, Specialist for Strategic Analysis, Polish Telecom; Małgorzata Budzyńska, Ministry of Foreign Affairs; Marcin Burakowski, Partner, Evergo; Piotr Ciżkowicz, Manager, Economic Strategy Team, Ernst & Young and Assistant Professor, Warsaw School of Economics; Jan Gorski, Owner, Plum Web Solutions; Marek Minakowski, Chief Scientist, DreamLab onet.pl; Tomasz Rudolf, President, Innovatika; Daniel Spica, Director, Infovide-Matrix S.A.; Andrea Szalavetz, Senior Research Fellow, Institute for World Economics, Hungarian Academy of Sciences; Paweł Świeboda, President, demosEUROPA – Centre for European Strategy; Alek Tarkowski, Manager, Creative Commons Poland and Member of the Team of Strategic Advisors to the Polish Prime Minister; Marzenna Weresa, Director of the World Economy Research Institute, Warsaw School of Economy; Paweł Zerka, Analyst, demosEUROPA-Centre for European Strategy.

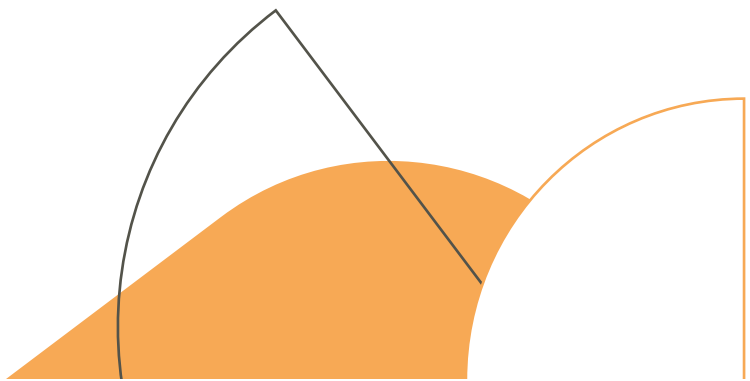
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# Introduction

Lack of comprehensive, long-term innovation strategies is largely responsible for the fact that the countries of the Visegrad Four (V4), especially Poland, Hungary and Slovakia, are still lagging behind Western Europe in their innovative performance. The global economic crisis, together with a new institutional and political opening in European politics, provide favourable ground for a paradigm shift in their policies of innovation. This is needed all the more urgently since the global geography of innovation has been 'turned upside down'<sup>1</sup> during the last years.

In their search for this new paradigm, **the countries of V4 should re-consider their current status of transitional economies.** In order to exploit this status to the maximum and, at the same time, accelerate their promotion to the upper league of innovators, the V4 should adopt a two-fold approach: on the one hand, focused on strengthening the absorptive and creative capacities; while on the other hand promoting the development of well-functioning mechanisms for a proper identification and administration of their 'niches' in the emerging global architecture of innovation.

The **category of a 'niche'** must be understood in a broad sense, encompassing both those sectors of the economy where a given country could boast a comparative advantage (e.g. manufacturing, automobile industry), as well as such a location in the global chain of innovation where this country can most efficiently perform (e.g. basic research, applied research, commercialization). Having broadly determined their niches, the V4 countries would have to match this vision with a specific policy approach, which should become the first element of a more fundamental change in the paradigm of innovation policy.

We argue that **the V4 countries should have an ambition of playing an active, not a secondary role in the global chain of innovation. However, in order to achieve this objective, they would need to make a thorough paradigm shift.**

Given that simple competitive advantages of their economies may become largely depleted, the V4 countries will have to switch smoothly from the efficiency-driven to the innovation-driven economy.

Given that simple competitive advantages of their economies may become largely depleted, the V4 countries will have to switch smoothly from the efficiency-driven to the innovation-driven economy. This would require a comprehensive strategy, with a clear division of labour between the State and the market; with accurate instruments of implementation; consistent with all the other associated policies (education, infrastructure,



healthcare, SME support, regional development, social policy); and putting innovation in the very centre of the political agenda. This is not only a question of what V4 could do to benefit the most from the global move towards the knowledge-based society. Now, with the 'world's centre of gravity shifting towards emerging markets'<sup>2</sup>, it is more and more a matter of how to survive in the new global economy.

While sketching their new strategies of innovation, and especially when thinking about a possible scope for the policy of specialisation, **the government should ensure that the market remains the principal driver of the process. Having said that, the State has an important role to play** on both the demand and supply side of the equation. On the one hand, it should provide

for an adequate innovation infrastructure (e.g. physical infrastructure; education and skills; research base) and aim at identifying and eliminating market deficiencies (e.g. aligning education system to innovation policy and market needs; securing an efficient system of innovation governance). On the other hand, it should play a guiding role in creating a well-functioning market for technology and it should 'lead by example', encouraging innovativeness in fulfilling its own functioning making the innovation criterion key in public procurement.

There are a number of **reasons justifying the common treatment of V4 countries**.

Firstly, with the sole exception of the Czech Republic, they are all 'moderate innovators' or 'catching-up countries' – according to the European Innovation Scoreboard. Secondly, there exist strong institutional and cultural foundations for enhanced cooperation between them, even if the full potential of the Visegrad still needs to be revealed. Finally, their membership in the EU creates both the need and the opportunity for common action. In the former case, growing tensions between the Northern and Southern Europe and the growing possibility of a new 'Grand Bargain' call for a common position of the V4 in the current discussions. Cooperation in this area would not only strengthen their voice but also prevent them from becoming marginalized. In the latter case, the approaching EU Presidencies of Hungary (1<sup>st</sup> half of 2011) and Poland (2<sup>nd</sup> half of 2011) create an exceptionally favorable ground for the V4 to come up with and promote their priorities in the EU, which is especially important in the context of the current debates about the new European Innovation Policy, new Strategy for Employment and Growth (Europe2020), new Financial Perspective, a possible reform of the Cohesion Policy and an expected deepening of the Common Market.

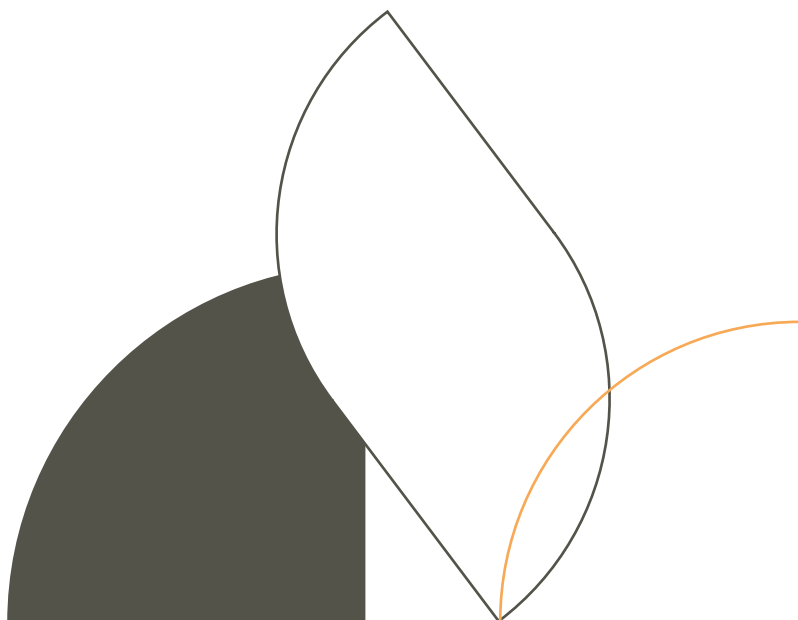
The approaching EU Presidencies of Hungary and Poland provide an exceptionally favorable ground for the V4 to promote their priorities in the EU



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The following report is divided into four parts. In the first part, we analyze the current context for the development of innovation in the countries of V4. In the second part, we conceptualise

the idea of 'innovation niches' and we link it with the policy of 'smart specialisation', weighing its possible risks and benefits. In the third part, we put the question of 'niches' in the wider context of a necessary change in the innovation paradigm and we demonstrate the necessary adjustments that need to take place in Central Europe. The final part includes specific recommendations to the V4 governments. ▀





# Context

## 1.1 Crisis & Innovation: a curse or a blessing for Europe?

**Innovation is clearly on top of the current European agenda**, as a result of the crisis which shook the foundations of European economies. Innovation is meant to play a pivotal role in achieving smart, sustainable and inclusive growth in the EU. An 'Innovation Union', consisting of "improving framework conditions and access to finance for research and innovation so as to ensure that innovative ideas can be turned into products and services that create growth and jobs"<sup>3</sup>, is the first out of seven flagships included in the Europe 2020 Strategy. Maire Geoghegan-Quinn, who is the first Commissioner for Innovation in the history of the European Commission, has already set up a panel of experts responsible for the development of a new indicator of innovation, given the common understanding that share of GDP to be invested in R&D does not properly capture the R&D performance. She has also announced that by autumn 2010 a new Research and Innovation Strategy for Europe will be published, to be discussed at an informal European Council in September. It is expected that the strategy will refocus research and innovation policies on the major challenges facing Europe, and that it will centre not only on research but also on innovation in business models, management structures and the delivery of public services<sup>4</sup>.

**Innovation is also one of the dominating themes in the political, scientific and business debates around the world, mostly due to an intensified global competition.** Responding to the perceived power shift in the global economic order, the Western countries are actively searching for new ways of how to spur innovation anew. One of the examples is the Strategy for American Innovation, announced by Barack Obama in 2009. This involves three groups of actions: (a) investment in the building blocks of American economy, (b) promotion of competitive markets that spur productive entrepreneurship, as well as (c) catalyzing breakthroughs for national priorities<sup>5</sup>. It may be seen as a clever example of how an optimal role for the State in the area of innovation could be defined in the current international context. Although some American analysts argue that this strategy is still 'nothing but ideas'<sup>6</sup>, we can expect that the US would succeed in implementing the eventual action plan. In fact, insofar they have been much more successful in this respect than the EU, not to mention the V4.

**The meaning of innovation as well as a scope for its application are constantly evolving,** while measures of innovation used in different reports are being progressively improved. For instance, the OECD, the US Department of Commerce and the British National Endowment of Science, Technology and the Arts (NESTA) are all considering their own versions of new, more extensive measures. The Summary Innovation Index (SII), used in the European Innovation Scoreboard, constitutes a good example of such an extensive measure, focused on multiple aspects of innovation. This is currently seen not only as an element in the exit-strategies from the current economic crisis but also as a possible answer to the most urgent societal and environmental challenges. In the Global Innovation Report we read: "Innovation is the game-changer, as Brazil has proved with its nationwide ethanol improvisation. Innovation is green as Iceland has proved with its geothermal revolution. Innovation is global as Google or Taiwan's chip industry has undeniably proved. Innovation is inclusive as Bangladesh's garment workshops have proved. (...) The concept has changed to become the center point of a survival strategy for the smallest enterprise to the largest nation"<sup>7</sup>.

**The global economic crisis, in a counter-intuitive fashion, demands even greater emphasis put on spurring innovation.**

First of all, there is no doubt that innovation is key to improving productivity which in turn is fundamental for higher competitiveness. Thus, innovation enters the scene as a major candidate to become a new powerful driver of economic growth. It can not only foster recovery of the economies struggling with short-term problems, but also provide them with a powerful anchor of improved competitiveness in the medium and long run. Besides, the crisis fosters change, thus enabling the long-neglected improvement in the way innovation is perceived, performed and supported. Finally, it favors creativity: many of the greatest breakthroughs (e.g. television or xerography) emerged during periods of depression. This apparent paradox can often be explained by the notion of “creative laziness”, according to which a lack of resources can become a powerful incentive towards innovating – as was the case with the decoding of DNA.

The global economic crisis can not only foster recovery of the economies struggling with short-term problems, but also provide them with a powerful anchor of improved competitiveness in the medium and long run.



**However, in order to appreciate the benefits that innovation can bring and to make full use of its potential, the countries of the European Union should radically change the way they approach it.**

Innovation should be understood in a broader sense, encompassing not only the product or process but also management, design, marketing and services. While measuring innovation, we should have a wider perspective and focus not only on the quantity of R&D expenses, but also -and even more- on its quality. When thinking about the actors involved in the process of innovation, we should take into account separate roles and responsibilities for the government, the market, the academia and individuals. Last but not least, the increasingly ‘open’ character of innovation should be factored into the equation. According to Williams, co-author of “Wikinomics”, we are living in the ‘era of openness’ which is driven by four big institutional transformations: in economy (with greater openness in innovation and science, enabled by a growing Internet penetration), in education (with new models of collaborative pedagogy and learning), in en-

ergy (with an open-source grid) and in government (with openness as a new source of efficiency and legitimacy)<sup>8</sup>. All in all, innovation should be seen as one of the key rules of the game in the economy of the 21<sup>st</sup> century.

**It would be far too simplistic to conclude that, given current economic and political situation and evident benefits that the focus on innovation would give, we are now bound to innovate.**

European discussions concerning innovation have been taking place for several decades, and yet, despite repeated statements of intent, taking certain steps proved impossible. This concerns, most of all, the **Community Patent**. According to recent reports by Bruegel<sup>9</sup>, its introduction would drastically reduce relative patenting costs for applicants while generating more income for the European – and National – Patent Offices as well as increased savings for the business sector.

It would be far too simplistic to conclude that, given current economic and political situation and evident benefits that the focus on innovation would give, we are now bound to innovate.

However, we observe a strong and continued resistance to this solution. Two official problems are language and the establishment of a centralized patent-litigation system. Besides, there is a powerful political blockade based on fear of losing economic rents (by patent attorneys, translators and lawyers) and the reduction in the controlling power by national patent offices. As long as a Single

EU Patent is not created, the European entrepreneurs and companies will still be paying an effective tax on innovation<sup>10</sup>, which would hamper the development of a truly European innovation area. In this context, we should welcome the declarations by Maire Geoghegan-Quinn about giving a ‘vigorous push’ to efforts to agree on an EU patent, and support her in overtaking the political obstacles to this end.

However, the Community Patent would answer only partially to the increased demand for the pro-innovative environment at the European level. **Already in 2006, in the “Creating an Innovative Europe” report, the group chaired by Esko Aho proposed a whole array of actions which the EU should undertake in order to become truly innovative.** They drew attention to the

need to create a functioning market for innovative goods and services. They put forward several suggestions as to how to secure the necessary resources for R&D and innovation in Europe. And they described 'structural mobility' as the basis for an innovation-driven success. In their final word they argued: "The opportunity to implement the proposed actions will not be available for much longer. Europe and its citizens should realize that their way of life is under threat but also that the path to prosperity through research and innovation is open if large scale action is taken now by their leaders before it is too late"<sup>11</sup>. Four years later, **we may justly ask whether in fact it has already not become too late, now that the EU is coping with more fundamental problems which have to do with the preservation of the European model and the European project.**

## 1.2 Emerging V4 of innovators?

**Judging by appearances, a recent discussion over the priorities of the Europe 2020 Strategy laid bare sharp differences between the Member States in their attitudes towards innovation.** On the one hand, there seemed to be the technologically advanced countries of

the Western and Northern Europe which considered innovation as a crucial driver of economic growth, especially in the times of crisis, and thus would like to put it at the heart of the new strategy. On the other hand, there seemed to be the catching-up or moderately innovative countries from Central and Eastern Europe who drew attention on the need to develop infrastructure first because its underdevelopment constitutes a major obstacle to their economic growth. However, such a picture would be far too simplistic. **From the perspective of the V4 countries, there is a clear win-win relationship between innovation and cohesion.** This is partly reflected in the on-going work on "Innovation through Cohesion" in the context of the Polish EU Presidency. Only partly, because the actual relationship between the two is two-way. On one hand, Cohesion Funds enable the improvement in technological absorption whose underdevelopment is seen in the V4 as a major

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obstacle to innovating. On the other hand, innovation can become a powerful driver for economic growth, thus fostering greater economic and social cohesion.

The current version of the Europe 2020 Strategy, unlike the original one, acknowledges these specific circumstances for the less innovative Member States. It includes the development of physical infrastructure in the list of the Strategy's objectives, and confirms a key role of Cohesion Funds as an instrument of its implementation. **However, these modifications should be used in a smart way by the countries of our region, as an opportunity rather than as a justification to positioning themselves as technologically retarded, economically handicapped ones, and thus liberated from the obligation to focus on innovation.** Europe 2020, if effective, could enable them to strengthen their links with the international economy which is becoming increasingly global, interconnected and competitive.

**Unfortunately, innovation in Central Europe is still largely underestimated as a potential driver of economic growth.** It is seen as a distant objective, a luxury which only the most developed economies can afford. In the end, the V4 are investing appallingly little in innovation and lack adequate innovation infrastructure. Against the Lisbon target of 3% of GDP to be invested in R&D, Poland in 2008 reached a level of mere 0,61%, compared to Estonian 1,29% or Slovenian 1,66%. Out of the V4, only the Czech Republic scored relatively well with 1,47%, but still below the EU average of 1,90%. As regards the innovation infrastructure and environment, the V4 are largely at a developing phase. According to the European Innovation Scoreboard, access to private credit and venture capital is still well below the EU average, just as is the number of EPO patents, community trademarks or community designs granted. Linkages between academia and business are relatively weak, while the share of innovative enterprises is, in comparison with Western Europe, very low which results from weak incentives for their development. Even the alleged relative strengths of V4, like human resources in Poland, result somewhat

Unfortunately, innovation in Central Europe is still largely underestimated as a potential driver of economic growth.



weaker when seen in more detail. In this particular case, there is a general agreement that the amount of highly skilled and educated people does not correspond to the market needs while the exact quality of this education leaves a lot to be desired. All in all, the Summary Innovation Indexes (SII) for all of the V4 countries are below the EU average, with only the Czech Republic scoring relatively well. Another recent survey demonstrates that out of all of the Central and Eastern European countries, only the Czechs –together with Slovenia- possess relatively strong prerequisites for knowledge economy growth<sup>12</sup>.

**For the last 20 years, the V4 countries have been progressively improving their performance in the area of innovation,** which is reflected in their improved position in innovation ratings. However, they are still lagging behind leading European innovators. In the last European Innovation Scoreboard all of the V4 countries are described as ‘moderate innovators’<sup>13</sup>. This means that they are in the third out of four groups of countries classified from the most to the least innovative. Apart from the Czech Republic whose rank has not changed much since the previous poll, Poland, Slovakia and Hungary have just managed to get out of the lowest group of ‘catching-up countries’<sup>14</sup>. The V4 countries are not only below the European average as far as innovation is concerned, but – what is even more important – they have a long way to go before they become ‘innovation followers’, not to mention ‘innovation leaders’.

**It remains an open question whether the crisis would lead to the reversal of this convergence of innovation performance between the more and less innovative EU countries or maybe just the opposite.** The former scenario is supported by the fact that firms in ‘catching-up’ and ‘moderately innovative’ countries, which until recently experienced the fastest rates of improvement in their innovation performance, showed the highest propensity to cut innovation expenditures and expect the greatest decreases in innovation expenditures in the coming years<sup>15</sup>. Moreover, given that certain indicators of innovation performance have a time

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lag of one or more years, even the most recent reports do not capture a full impact of the crisis. This means that we have to wait a little bit longer to see the real effect of the crisis on convergence. However, the latter scenario is also possible largely due to the EU Structural Funds which work against the impact of the crisis, in a way typical for 'automatic stabilisers'. Therefore, in the short run, all of the V4 economies might experience convergence and improvement in various elements of innovation activity. Still, this would not necessarily mean that we are on a right track. Our apparent performance might improve but the eventual absorption of increased resources as well as their efficient use would depend on the quality investments now and on the implementation of appropriate reforms.

This leads us to the question of the **effectiveness of V4 policies in those areas which have a direct impact on innovative activity**. Their greatest weaknesses have usually been common for the V4 and included: insufficient provision of resources; excessive emphasis on top-down mechanisms; as well as scant attention put on creating pro-innovative incentives and strengthening linkages between academia, the administration and the market. Besides, legal systems in V4 countries have usually put many obstacles to bankruptcy, while legal proceedings have been taking a lot of time, which partly explains why the 'grey economy' has always constituted a significant problem. Most importantly, the V4 hold the same entrepreneurial culture of risk-aversion which needs to be challenged through adequate market incentives and government leading by example.

**The example of the Polish pharmaceutical sector** demonstrates how the insufficient provision of proper regulations and market incentives can stifle innovation. The pharmaceutical sector is normally characterized by very high innovativeness, accounting for around 20% of the total R&D expenditure. However, in Poland it is well below this level, which can largely be explained by a lack of necessary pro-innovative incentives. The reimbursement list includes fewer innovative medicines than is the case in the neighboring countries, which effectively discourages innovation in this sector. Besides, there is little of a dialogue between

stakeholders in the system which creates a powerful communication barrier and hampers the introduction of the greatest breakthroughs into the market.

**All of the V4 can boast some kind of an Innovation Strategy.**

The Czech Republic is a regional leader in this respect. In 2008, the Czech government approved a Reform of the System of Research, Development and Innovation whose motto read *Science turns money into knowledge, innovation turns knowledge into money*, and which simplified the system of public support for R&D&I. Besides, in 2009 the government approved a 'National policy of research, development and innovation of the Czech Republic for 2009 – 2015'<sup>16</sup>, which stipulated the basic policy direction for the coming years and tackled further questions, such as internationalisation of R&D&I, its relationship with the society as well as the provision of quality human resources. Finally, responding to the economic crisis, the Czech government committed not to reduce public investment in R&D&I<sup>17</sup>. Promising changes are also visible in Poland. In April 2010, the Polish Minister of Science and Higher Education announced amendments to the Law on Higher Education, stipulating inter alia creation of Leading Scientific Centers, adaptation of the academic program to market needs, and the strengthening of links between universities and business. The basic policy direction has largely been put forward in the "Poland 2030 Report", prepared by the Board of Strategic Advisers to the Prime Minister of Poland, which suggested that by 2030 the level of R&D investment should increase up to 4% of GDP (with 2% coming from private sources), while the share of scientists working in the public sector should fall from current 92% to 60%.

**However, the exact effectiveness and appropriateness of these regulations, many of them only drafts, still need to be verified.**

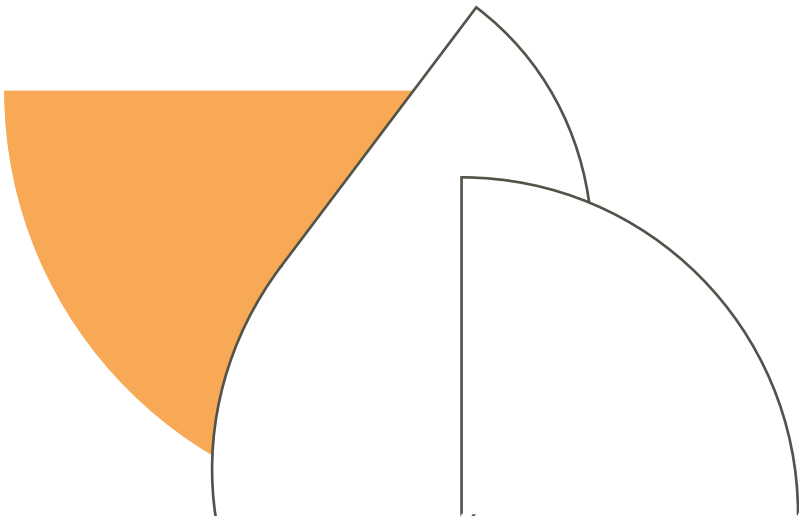
**All the more since the mere "newness" of innovation policies is not a value in itself.** Regardless of whether there is a change in the government or not, there is usually too much fluctuation in the innovation policy in the region, which may be exemplified by the Hungarian Ministry of Innovation, operational for eight months and then abolished. Due to this institutional chaos, national in-

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novation policies are incomprehensible to the general public and to those who are supposed to implement them, which altogether translates into their limited efficiency.



**Therefore, a “long-termism”, wider outlook and greater consistency should become key characteristics of innovation strategies in the V4.** On the one hand, well-prepared and already implemented strategies should be continued, which is a precondition for them to take root in various spheres of the economy and science. On the other hand, the V4 must aim at a wider outlook of their innovation strategies as well as a greater consistency between all the policies which have some impact on innovative activity. The strategy of innovation should encompass the entire “knowledge triangle” (education, research, innovation), focus on market incentives and put attention on good governance and the efficiency of public administration. ▴



# 2

## Turning gaps into niches

The V4 countries must renew their bonds with innovation. In our view, a double-track process is needed here. On the one hand, the V4 should focus on the necessity to fill 'knowledge economy gaps'. On the other hand, they should try to define and exploit their 'innovation niches'. Achieving both of these objectives may require some kind of a smart policy of specialisation, which should leave key role to be played by market forces. However, no effort would be effective without a strong political support, both at the national and European level.


### 2.1 Filling the knowledge economy gap

According to the analyses of the World Bank<sup>18</sup>, countries should undertake different mix of actions in their innovation policy depending on their 'knowledge economy gap' vis-a-vis the benchmark economies. Those with large gaps should concentrate on improving their technology absorption, whereas more successful

The V4 countries should both improve their technological absorption and sustain productivity growth through own innovations. The latter may require a smart form of specialisation.

catching-up economies should start putting more effort into sustaining productivity growth through own innovations<sup>19</sup>. **The V4, in their position of transitional economies should imperatively join the two types of actions.**

Improving technological absorption involves several necessary steps. Adequate infrastructure and environment should be as-



sured in order to enable a more effective absorption of new technologies. This concerns, first of all, physical infrastructure (like highways, airports or railways) which – notably in the Polish example – constitutes a still powerful obstacle to the flowering of entrepreneurial initiatives. Secondly, knowledge-economy infrastructure needs to be improved including broadband access to Internet, IT infrastructure, quality research centers, clusters and knowledge parks. It is symptomatic that Poland has until now used only a few per cent of available European funds aimed at developing broad-band access to Internet. Thirdly, changes need to be introduced to the education system which should be characterized by high quality as well as consistency with both the market needs and the national innovation strategy, in order to guarantee an adequate supply of specialists. Finally, favorable conditions and climate for investment are necessary with inter alia facilitated access to capital (e.g. credits for small and young enterprises, which demonstrate the greatest innovativeness<sup>20</sup>), stimuli for Foreign Direct Investment, as well as better regulation (e.g. less restrictive bankruptcy laws).

Technological absorption should be enhanced through the public sector leading by example and creating or strengthening markets for innovative solutions or products. Introducing innovative instruments in the public sector (like e-administration, e-education or e-health) or making public procurement dependent on the innovativeness criterion should help spread the culture of innovation in the national economy, thus leading to a considerable improvement in its efficiency and in general conditions for economic growth.

Filling the knowledge-economy gap as a first measure of 'turning gaps into niches' should not raise many objections. As argued in one of the previous demosEUROPA reports, "the solutions are there and do not have to be reinvented. All that is needed is the political will<sup>21</sup>". However, the situation is different with regards to the second measure: sustaining the productivity growth through own innovations. This may be achieved through various approaches. We argue that the V4 countries, being EU members, should opt for a smart policy of specialisation. **However, such a policy would have to be much smarter than the so-called 'smart specialisation', originally suggested by Dominique Foray.** Recently, this concept has become increasingly popular thanks to its inclusion in the Europe 2020 Strategy.

## 2.2 Specialising smart

According to Dominique Foray, "too many regions in Europe opt to compete in the same worldwide or European tournament in the field of biotechnologies or information technologies. This sheep-like behaviour inevitably leads to a collection of subcritical systems and results in an unhealthy uniformisation of the European knowledge base<sup>22</sup>". In order to reconcile European polarisation and distribution, that is the targets of both innovative and cohesive Europe, he suggests that innovation followers and catching-up economies should define their role in the global chain of innovations in a different way than innovation leaders do. "While the leader regions invest in the invention of a General Purpose Technology (e.g. biotechnology, information technology) or the combination of different GPTs (e.g. bioinformatics), followers must invest in the co-invention of applications, that is development of the applications of a GPT in one or several important domains of the regional economy<sup>23</sup>". As a result, "these regions enter into a realistic and practicable competition logic, by defining a competition arena composed of a small number of players<sup>24</sup>", while at the same time unnecessary duplication is avoided in the European economy. The difference between GPTs and co-invention of application, in the words of economist, may be explained in the following way: "Invention of a GPT extends the frontier of invention possibilities for the whole economy, while

application development changes the production function of a particular sector<sup>25</sup>. **By these standards, the V4 should leave the development of the greatest inventions to the most advanced economies and concentrate rather on the co-invention of applications in their own areas of specialisation.** Such an approach, focused on complementing the country's productive assets, would –according to Foray- enable a progressive creation of comparative advantages and would be far more effective than the current 'spreading investment thinly across several technology fields, not making much of an impact in any one area'<sup>26</sup>.

Foray adds two important remarks to his concept. First, he underlines that the **smart specialisation should be understood as a specifically 'entrepreneurial process of discovery'<sup>27</sup>**, and not a form of a top-down industrial policy. The government would still have to play very important but more infrastructural role (e.g. through provision of information about emerging technological and commercial opportunities and concerns, or about possible sources of finance) as well as a motivating one (e.g. through provision of incentives which encourage entrepreneurs to invest in a risky discovery process).

Further integration of European research should be accompanied by new innovation policies in the V4 countries. Otherwise, there is a risk of increased polarisation in Europe in the innovation performance, with 'leaders' reaping all the fruits of the ERA, and 'followers' succumbing to even deeper marginalisation.

Secondly, he admits that the **smart specialisation really makes sense when a truly European Research Area (ERA) is developed.** The ERA may constitute an antidote to the current uniformisation and a nationally-based fragmentation of European research. By enabling the freeing of 'agglomeration process' plus the occurrence of 'economies of scale' and 'economies of variety', it could lead to a substantial improvement in the efficiency of European research. Those countries or regions that vegetate on the margins of the global innovation system but wish to stay in the game, should be especially interested in a further development

of the ERA – just as they are in the deepening of the Internal Market of the EU. However, further integration of European research should be accompanied by new innovation policies in these very

countries. Otherwise, there is a risk of increased polarisation in Europe in the innovation performance, with 'leaders' reaping all the fruits of the ERA, and 'followers' succumbing to even deeper marginalisation. The concept of smart specialisation is supposed to constitute a solution to this problem.

**Nevertheless, Foray's theory of 'smart specialisation' has several drawbacks that need to be eliminated if the V4 are indeed to specialise smart.**

In any case, they should specialise even smarter than Foray recommends. The first objection is that there exist GPTs (e.g. ICT or biotechnology) which present more opportunities for technological development and innovation than others. If everyone specialises in biotechnology, this does not necessarily mean uniformisation or research duplication, because the technological area is sufficiently rich for everyone to find its own niche. Secondly, the bulk of EU funding is directed to these areas, which further justifies their selection by researchers from Central Europe. Thirdly, using the term "duplication" is misleading in relation to these areas because the actual situation has many characteristics of a synergy. Furthermore, the argument that leaders should invest in basic research while followers and moderate innovators should rather concentrate on applied research, is ill-founded and fundamentally flawed, and thus cannot be accepted by the V4. In the chain concept of innovation, basic and applied research are strongly inter-related, so we cannot separate them and allocate the privilege of carrying out basic research only to innovation leaders. All the more since applied research is strongly related to commercialisation, which is not a local strength of the V4. Finally, if the criterion of capital-intensity is a decisive one, then applied research, if related to commercialisation, is in most cases more capital-intensive than basic research.

**Therefore, the V4 countries need to find their own version of 'smart specialisation' which would not repeat the flaws of the Foray's concept.** Such a policy could be based on the following triad of activities.

The V4 countries need to find their own version of 'smarter specialisation'. This could be based on: the creation of the best conditions for the entrepreneurial activity; unequivocal support for promising European initiatives; and governmental support in those areas where incentives for business are too weak.



- ◆ **First of all, the governments of the V4 countries should search for areas of a possible intelligent specialisation.** They should eliminate obstacles to their smooth development whenever market deficiencies are identified. At the same time, they should actively support initiatives in those sectors which are seen as strategically important or may produce positive externalities. Unlike in Foray's theory, the V4 may pursue both basic and applied research depending on the opportunities which emerge, especially since both elements of the innovation chain are strongly interrelated.
- ◆ **Secondly, the V4 governments should leave as much as possible to the market forces.** The best policy of smart specialisation is a policy of a smart State, that is such which favors entrepreneurial activity and aims at lifting all the obstacles to a smooth development of businesses. The most important role for the government would be to guarantee good regulations and the rule of law and to mitigate possible asymmetries of information.
- ◆ **Third, the governments of the V4 countries should unequivocally support promising initiatives at the European level,** especially the development of European Research Area, the deepening of the EU Single Market and the introduction of the Community Patent. Any initiative which enlarges the market and the research area is favorable from the point of view of smart specialisation because it enables a more effective allocation of resources, the occurrence of economies of scale and economies of variety, and the freeing of the agglomeration process.

## 2.3 Finding the niches

**Once we agree that the V4 should embark on a kind of specialisation policy, we face a difficulty of finding the right innovation niches.** This question needs to be tackled for two reasons. First, no matter how much 'entrepreneurial' this process may be, the government will still have much to do, especially when selecting priority areas of research, that is those at which additional incentives should be targeted. Secondly, the business community also has to learn how to find adequate innovation niches, given the oc-

currence of market deficiencies which can be explained in reference to several factors. First of all, the development of innovation involves taking considerable risks. Therefore, entrepreneurs need a specific environment (e.g. laws & regulations, fiscal incentives) which would encourage taking risks. All the more since some of possible niches may exist in those areas which may have very positive externalities or high social value (e.g. fighting poverty or climate change) but are of limited interest to the entrepreneurs, due to exceptionally high investment risk or a difficulty in protecting intellectual property rights. Secondly, the whole economic activity is situated in a general political context. The areas of entrepreneurial activity will largely depend on the direction of both national and European policy. **The business community will not engage in 'smarter specialisation' unless it is persuaded that the government and the EU will durably bet on innovation.** The current difficulties in developing innovative projects in the energy sector, like CCS plants, is a good example here: entrepreneurs have insufficient incentives to pursue their projects given the uncertainty about the future political decisions. Last but not least, due to insufficient links between the business and the research community, entrepreneurs may face a problem of weak exchange of information about the most promising areas of investment.

In their search for innovation niches, the governments and entrepreneurs of V4 should be guided by the will to get as close as possible to the research frontier while remembering about the specific needs and limited potential of their economies. Looking for a proper direction, they should -first of all- take account of the **greatest challenges that Europe and the global economy are facing.** These include: aging population, climate change, poverty reduction, migration or reforming the health-care systems. We can be sure that in the future there will be a high demand for innovative solutions to these challenges, which makes these areas exceptionally attractive for both researchers and business; especially since we can expect that they would enjoy a strong political and financial backing in the EU.

Besides, there are those **areas of research which are on top of the global research agenda,** considered as the most important

or promising fields of the moment. It is often argued that Europe cannot permit itself to lag behind in nanotechnology, biotechnology or cognitive/neuro-sciences. These areas are seen as the most fertile areas for innovation, enabling positive effects in different other domains, as confirmed by several successful examples of smart specialisation (e.g. biotechnology applied to the exploitation of maritime resources in Andalusia; nanotechnology applied to the wine quality control, fishing, cheese and oil industries in Braga<sup>28</sup>; or biotechnology in Hungary<sup>29</sup>).

Furthermore, there are the **strategic areas of research**, seen as the most attractive from the European perspective. Esko Aho in 2006 included seven areas in this group: e-Health, Pharmaceuticals, Transport and Logistics, Environment, Digital Concept, Energy and Security. Their common trait is that they “combine great need with many possibilities for revolutionary innovation<sup>30</sup>”. Most importantly, all of them correspond to the before-mentioned greatest challenges.

Finally, there are **those sectors of the economy in which a given country is specialising or enjoys a competitive advantage** (due to its natural, human, organizational or other resources), as well as those areas which correspond to its particular needs or challenges. In the Polish case, this would concern e.g. **clean coal technologies (e.g. CCS)**. Poland has a long history of specialising in the production of coal, its energy sector largely depends on coal, whereas the emissions reduction targets create a need for developing new, clean coal technologies. Thus Poland may transform its experience and dependency into a profit, while giving impetus to the national economy and producing very positive regional externalities.

The smart policy of specialisation will consist in tailoring ambitions to the specificities of a country.



When searching for their innovation niches, the decision-makers as well as business leaders and scientists should be inspired by all of these directions. However, the smart policy of specialisation will consist in tailoring ambitions to the specificities of a country. As the researchers from the University of Tartu observe, “the new EU member states should

pay attention to the development of less capital intensive areas (due to more limited funding capabilities) [...] and maybe also technology-based services such as health care, energy and environment. Particularly important is to find niches inside the broad area of implementing new technologies in mature industries and services. Here it is extremely relevant to link new technologies with the already existing strengths of research expertise<sup>31</sup>". This prescription is largely correct, with the sole objection that many of the technology-based services, including those mentioned above, are at the same time hugely capital-intensive.

A good example of an adequately defined and administered innovation niche would be the Polish textile industry. The Textile Research Institute in Łódź, which has been operating already for 65 years, takes advantage of a rich Polish experience in the sector of textiles while keeping a strong focus on innovation: its researchers regularly receive international awards<sup>32</sup>. We can also see encouraging evidence which demonstrates that a shift towards some kind of a 'smarter specialisation' is already taking place in the policies of V4. This is how we should perceive the GreenEvo project launched this year by the Polish Ministry of Environment. It aims at supporting the most innovative green technologies (so-called 'eco-innovations') developed by Polish enterprises or scientist, helping them to go global and join an international race for leadership in the fast emerging green technology market. Another example is a very successful Mobility and Multimedia Cluster in Hungary. It includes 53 members who participated in 12 EU funded programs in 2009, with a total budget of 17,8 million euro, and obtained many award-winning results which were then integrated into profit-making products and solutions. Similarly, the Hungarian National Technology Platform for Integrated Micro and Nanosystems, with 36 members, has produced spectacular scientific and business results<sup>33</sup>.

**However, this evidence should not blur the general picture of the V4 lacking effective innovation policies.** What we need are robust innovation policies, with clear divisions of obligations between State and market, with strong incentives for the development of innovations in the desired areas, and with an indis-

putably European perspective. Such policies are a sine qua non condition for a smooth development of innovation in those areas where the V4 can or should specialise.

## 2.4 Putting innovation in the centre of the agenda

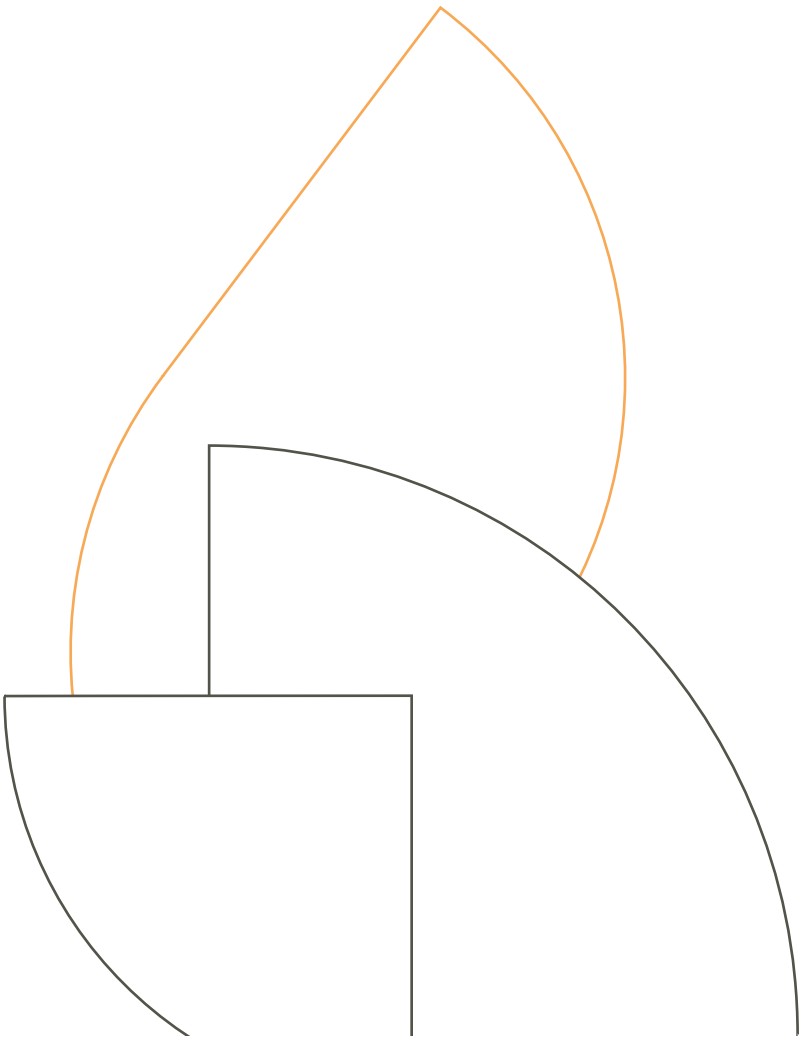
The political class in the V4 countries has not yet succeeded in identifying benefits for themselves that they could draw from an active stance on innovation.



**Turning gaps into niches demands strong political support.** In the majority of countries which embarked on new and successful roads towards innovative economy (e.g. Finland, South Korea), political leaders played a crucial role. Thanks to their determination, it was possible to overcome the inertia of the system. Unfortunately, in the case of the V4, there is not an abundance of leaders who are intent on pushing their countries towards a more innovative future. General elections set for 2010 or 2011 in all of these countries raise further doubts concerning the possibility of reaching quickly a political consensus. The main problem lies in the fact that the political class has not succeeded in identifying benefits for themselves that they could draw from an active stance on innovation.

The circumstance of the end of the crisis, together with increased EU concentration on innovations provide a favorable ground -and a good political justification- for the V4 to focus on innovation. However, in order to benefit from this favorable context, the V4 countries will not only have to improve national infrastructure and environment for the development of innovations. They will also have to join key European debates on this subject. Given that specialisation can perform most successfully in a large research area, they should **strongly support a further development of ERA**. They should also lobby for a further opening of the EU Internal Market. Finally, they should enter in a constructive way the debates concerning the new European strategy for employment and growth as well as

the European Research and Innovation Strategy, the next EU Budget and the future of the Cohesion Policy. Only the creation of an effective European innovation area and a correct orientation of the European strategy for growth, would permit a reduction of the knowledge economy gap, successful specialisation and an eventual increase in the competitiveness of the V4. Therefore, **we should be the first to opt for ambitious actions in this respect.** 🍊



# 3

## For a new innovation paradigm

This leads us to the final point. The objective of turning gaps into niches should be the first element in a completely new V4 innovation paradigm. Its further elements, strongly related to the first one, would consist in inter alia: defining a new role for the public policy in the area of innovation; focusing on strengthening links between academia, business sector, public administration and local communities; improving the governance, implementation and communication of innovation policies and strategies; paying increased attention to the SMEs; and last but not least enlarging the perspective from the national to the European one. All of these prescriptions are V4-specific in that they concern those areas in which the region is lagging behind, largely due to the unfinished phase of transition. Below, we briefly comment on the necessary further developments.

The objective of turning gaps into niches should be the first element in a completely new V4 innovation paradigm.



## 3.1 Finding a proper role for the government

As a result of the global economic crisis, the question of the government's role in innovation needs to be revisited. A recent Innovation Debate in the "Economist", in which votes split evenly between two opponents, proved that this question is still prompting extreme reactions. On the one hand, there were supporters of the "least is best" principle<sup>34</sup>. On the other hand, there were those who drew attention to an important role for the government in spurring and shaping innovation<sup>35</sup>. Interestingly, however, the two approaches proved to be much more reconcilable than they used to be. The former acknowledge that "doing the least does not mean doing nothing at all". They accept that the State should, for example, create a favorable regulatory environment or provide (dis)incentives which would enable the reduction of negative externalities (e.g. pollution). As for the latter, they accept that the market should be the rule but simply see more areas in which the market is deficient. They welcome State interventions in, above all, eliminating market failures, providing for a properly educated workforce, supporting fundamental research, setting standards and making sure that innovation delivers public benefits.

There have always existed different models of the role of the State in innovation. The Silicon Valley in the US, Israeli's high-tech industry and Japan's MITI had long been considered primary examples of successful State intervention in the area of innovation. However, all of them are experiencing serious problems nowadays. The opposite concerns Hong Kong, with the economy thriving despite lack of strong State support for R&D. In the middle, there are examples of Finland or Korea, where the government played a crucial role in promoting innovation which provided for a quick knowledge revolution and a stable growth path. All of these examples demonstrate that **there is room for a new consensus, where the market would be the main driver of innovation but the State would have an important role to play in dealing with market failures.**

The new American Strategy for Innovation reflects this new compromise approach. It states that “the true choice in innovation is not between government and no government, but about the right type of government involvement in support of innovation. [...] We propose to strike a balance by investing in the building blocks that only the government can provide, setting an open and competitive environment for business and individuals to experiment and grow, and by providing extra catalysts to jumpstart innovation in sectors of national importance”<sup>36</sup>.

The market should be the main driver of innovation while the State has an important role to play in dealing with market failures.



We argue that the **V4 should take a similar approach to the public innovation policy, in which the accent would be put on creating the ‘building blocks’ for innovation and fostering a pro-innovation market, while some strategic specialisations would receive additional public support.** The government would have to play important role both on the supply (e.g. development of knowledge infrastructure) and the demand side (e.g. public procurement, support of lead markets). However, instead of drafting its own Silicon Valley projects, the government should rather guarantee a smooth performance of the market forces, while supporting those initiatives which may produce positive externalities or are perceived as strategically important.


**Alongside this policy, the government should lead by example and create incentives for innovation wherever possible.** It could foster creativity by introducing new policies which would tackle the most important societal challenges (like climate change, ageing population, poverty reduction) and thus encourage new innovative business opportunities<sup>37</sup>. It could favor innovative solutions in public procurement and in the administration (e.g. through e-administration). But above all, it should legitimise change and innovation within societies, administration and business, through the promotion of model examples and introduction of a new political discourse favoring an innovative and more risk-friendly culture<sup>38</sup>. An example of a good practice is a pilot project www.

skuteczni.gov.pl, introduced recently in the Poland. It aims at identifying weaknesses in the system of information management and information flow within the public administration, while at the same time enhancing cooperation between innovation leaders within its structures. What the V4 should also do is implementing the Directive 2003/98/EC on the re-use of public sector information, using the examples of the American [www.data.gov](http://www.data.gov) or the British [www.data.gov.uk](http://www.data.gov.uk) Websites. Lack of information is nowadays just as strong an obstacle to the development of innovation, as the insufficient physical infrastructure has been in the past.

## 3.2 Strengthening the weakest links

Greater emphasis should be put on possible synergies between the business, academia, research centres and administration.

The traditional approach towards innovation in our region is focused on strengthening its core actors: the academia, research centres, the business and the public administration. However, **insufficient attention is put to the exploitation of synergies**



**between these entities.** According to the European Innovation Scoreboard, linkages (e.g. Innovative SMEs collaborating with others; public-private co-publications) constitute one of major weaknesses of the V4. This problem concerns not only the links between enterprises themselves or between the business and public sector, but also and foremost the academia-business nexus. On the one hand, technical universities in Central Europe are often out of touch with the newest inventions and they put disproportional attention to the theory to the detriment of the practice. On the other hand, the business community still does not sufficiently appreciate the benefits that the R&D as well as stronger contacts with the academia could give. Furthermore, cooperation between **academia and academia** is very weak, with universities becoming closed silos, very often accepting only their own graduates for PhD studies, and cooperating too rarely with other national or foreign research centres.

The new V4 paradigm of innovation should, of course, pay the strong attention to the 'building blocks' of innovation, like the systems of education or science. These blocks will also have to be reformed in order to become true engines for the development of innovations. Nevertheless, the innovatory element in the new paradigm should be an increased focus put on the linkages between the blocks.

Government policies should aim at strengthening the **industry-science nexus**, both across borders and sectors. It should be noted here that a draft reform of the system of higher education in Poland takes account of this need and envisages the introduction of interdisciplinary subjects 'commissioned' by the industry as well as an increased support for the 'commissioned' specialisations<sup>39</sup>. This goes hand in hand with the "Strategy for the development of higher education in Poland by 2020"<sup>40</sup>, prepared by Ernst&Young and the Gdańsk Institute for Market Economics, in which the authors suggest that joint business+academia research projects should receive public support, while the copyright and industrial property rights should be reformed in a way that would encourage commercialization of innovations by academics.

Secondly, the **academia-local communities** nexuses and the **business-local communities** ones should be reinforced in order to enable synergies. The program of education should relate to the specificities of the region; social activity of regional enterprises should be encouraged; and research directed by the business and academia should take account of the specific needs and challenges of the local communities.

Finally, **links between the administration and the rest** should be intensified, so that public policies better reflect needs of researchers, entrepreneurs and ordinary people, while at the same time the administration learns more from their experience, benefits from the most recent inventions, and helps diffuse the best examples across the economy.

### 3.3 Improving governance, implementation and communication

Good innovation governance demands continuity, stability and adaptability. This requires a completely new approach towards innovation: one in which it is treated seriously.

The eventual success of innovation policies depends not only on their initial shape but also -if not foremost- on their implementation. Therefore, governments should concentrate both on conceptualizing adequate reforms and on envisaging the ways of their successful introduction. This requires a completely new approach towards innovation: one



in which it is treated seriously, as a key engine for the nation's drive to the economy of knowledge. Moreover, it demands an increased attention to be put to the question of 'innovation governance'. The new European Innovation Progress Report 2009<sup>41</sup> looks deeper into this category. It quotes recent studies according to which "countries that succeed in developing and sustaining strong innovation capabilities and well-functioning systems of governance do well economically while those that fail tend to fall behind<sup>42</sup>". It also stipulates that the catching-up countries should be especially interested in a good governance of their innovation policies. This 'good governance' should be understood as tailoring the policies to the country's needs and resources. The underlying assumption is that states with different levels of development of their economies and innovation systems should adopt innovation policies adapted to the specific 'system failures'<sup>43</sup>. But **good governance is provided not only by a correct adaptation of policies to the needs, but also by inter alia: continuity, stability and adaptability of policies; adequate priority setting; involving all the stakeholders; tailoring the policies to the resources available; providing for a clear division of responsibilities; and creating a functioning system of coordination.** We cannot indicate specific solutions to be introduced by the V4, because -as argued in the Progress Report- "there is not a single best practice model of innovation governance<sup>44</sup>". Just the opposite, innovation governance is strongly path-dependent, which means that every case is particular. However, paying greater attention to the question of innovation governance is a must.

**Good communication constitutes an essential part of good governance.**

Unfortunately, the majority of V4 countries do not succeed in communicating their medium-term strategies to the general public. They should pay more attention on a successful communication of their plans (e.g. those to improve education or invest in research infrastructure), by promoting innovation strategies and explaining both their details and how they would be integrated in other policy fields like FDI-promotion or cluster-promotion. Only a clear message would make their countries more attractive for the technology-oriented investors willing to make quality investments. Poland, Hungary and Slovakia should follow the example of the Czech Republic with its exemplary Chechinvest service ([www.czechinvest.org](http://www.czechinvest.org)). Established already in 1992, Czechinvest is an agency of the Ministry of Industry and Trade which advises and supports existing and new entrepreneurs and foreign investors in the Czech Republic. Its main activities –all of them free of charge- include: the provision of current data on business climate, investment environment and investment opportunities in the Czech Republic; the filing of applications for investment incentives at competent governing bodies, plus preparation of draft offers to grant investment incentives; as well as intermediating between the EU and small and medium-sized enterprises in implementing structural funds in the Czech Republic.

Innovation strategies should also be communicated in a clearer way.



## 3.4 Paying greater attention to the SMEs


**Small and Medium Enterprises are one of the key drivers of economic growth and innovation.** They enable a transformation of the national economy from the one based on traditional sectors to a technologically-advanced one. However, the SMEs are very vulnerable to negative shocks in the business environment, which is why few of them live longer than 5 years. Given the clear benefits that a strong SMEs sector can give to a national economy, many countries create specific agencies

or companies responsible for supporting their development and a proper functioning.

However, the countries of V4 are still largely lagging behind in this respect. According to D. Klonowski<sup>45</sup>, the programmes managed by the Polish Agency for the Development of Entrepreneurship (PARP) are unadjusted to the

One of the tasks for the government is to foster the development of SMEs.

SMEs' needs. Specifically, there exists a large 'liquidity gap' as the financing is granted either to small projects or to large ones, with no resources available to the projects situ-



ated in the middle. Further deficiencies of the system of public SMEs support include: a lack of sufficient information about the existing programs; a resulting low awareness about their existence; very complicated application procedures; and a lack of quality advisors. In such a context, it is not surprising that the sector of SMEs in the V4 countries has not yet revealed its full potential. The specific recommendations<sup>46</sup> for governments involve: increasing access to capital for the SMEs; simplifying application procedures; and providing for the long-term consultancy in the development of companies.


### 3.5 Going European

Last but not least, the new paradigm of innovation should **accept the increasingly open character of innovation**. One of the multiple dimensions of this openness is a geographical one.

Thanks to the Internet revolution and due to a free movement

We should quickly open our systems of innovation, in order to benefit from the R&D internationalisation and the globalisation of innovation.

of persons in the EU, we observe a surge in innovations developed by dispersed groups of people, among them not only researchers but also businessmen, public employees or ordinary folks (this reflects another dimension of this openness, the professional one). This means that innovation can no longer



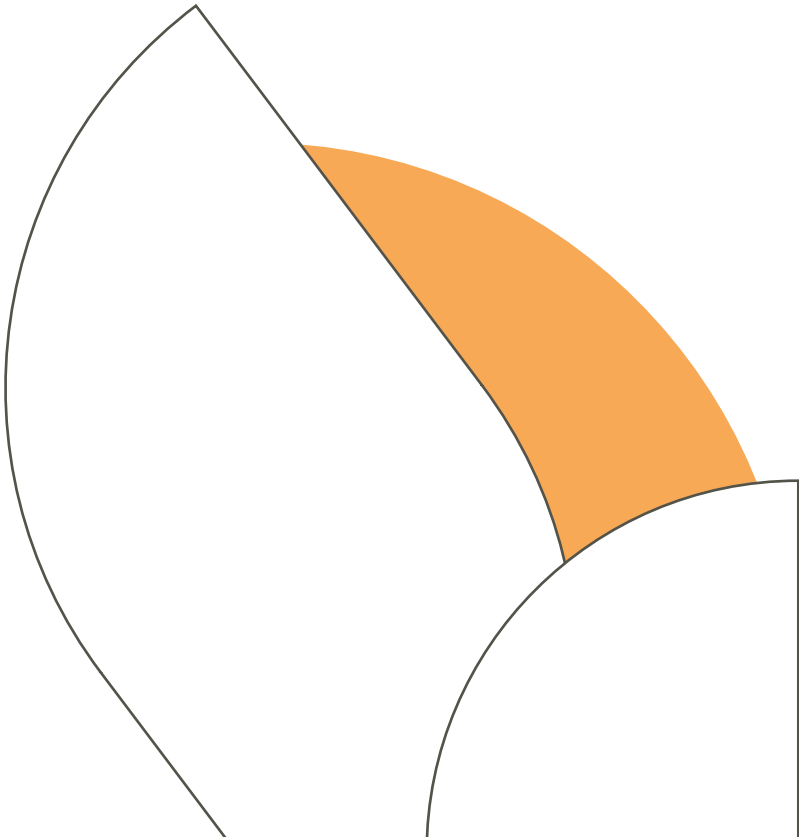
and should not be considered a national question. Just the opposite: if we want to benefit from the current wave of opening, we should quickly open our systems of

innovation, in order to benefit from the R&D internationalisation and the globalisation of innovation. Specific measures include: favoring exchanges for students/academics and encouraging their mobility; fostering the creation of international research teams; and finally lobbying for the development of a true European Research Area.

All of these would require another change in thinking about innovation: which should be treated as a European and no more a national objective. Our long-term objective should be the emergence of a 'European Innovation System'<sup>47</sup>. In order to get closer to this objective, the European countries should aim at a better harmonization of national innovation strategies, with European Commission being responsible for its coordination. The V4 could accelerate this process by introducing greater consistency between their respective innovation policies and innovation strategies. This is one of the key areas where the V4 cooperation reveals its powerful added value. 

The V4 should introduce greater consistency between their respective innovation policies and innovation strategies. This is one of the key areas where the V4 cooperation could have a powerful added value.







## Recommendations

Given the remaining knowledge-economy gaps towards innovators leaders, the V4 should urgently introduce a targeted revolution in their attitude towards innovation.

A continuation of the current evolutionary approach would inevitably lead to a progressive decline, both vis-a-vis the economies of Western Europe as well as vis-a-vis the world economic powers like the US, Japan and fast-emerging China, India or Brazil. Instead of reconciling themselves with an economic driftage, the V4 should aim at experiencing the long-awaited Golden Decade, especially since this seems now totally within their reach. Below we summarise and organise the recommendations already included in the report.

Instead of reconciling themselves with an economic driftage, the V4 should aim at experiencing the long-awaited Golden Decade.



## 4.1 Creating conditions for the development of innovation niches

If the V4 are supposed to become powerful innovators, then they would have to create favorable conditions for the development of innovation in their economies and also for the emergence and proper administration of innovation niches.

This would require, first of all, **creation of favorable investment climate and environment**. In general Governments should constantly aim at reducing their expenses, because this would enable the cutting of taxes and could lead to a significant increase in employment rate thanks to the reduction in a tax wedge. Governments should foster the economic activity through the introduction of e.g. less restrictive bankruptcy laws as well as simplified procedures for SMEs. They should also try to limit asymmetries of information by e.g. introducing their own versions of the **www.data.gov** project.

Secondly, **improvement in the technological absorption of their economies** is a must. In this respect, the governments should focus on providing: a) quality physical and knowledge-economy infrastructure (highways, airports, railway as well as IT infrastructure, broad-band access to Internet); b) quality institutions (education of all levels, healthcare, research base); c) well-functioning local markets for technology. All of these requires adequate conditions for a smooth performance of market forces which should become key actor of change.

Third, governments should **actively support the development of niches**, leading a kind of a smart policy of specialisation. This would require, on the one hand, institutional support for the creation of clusters and knowledge parks; and on the other hand, financial and institutional support for the development of innovation in the strategic areas (e.g. green energy), especially when there are insufficient incentives for the business community to engage in such projects. However, governments should intervene only in those cases where market deficiencies or a lack of sufficient incentives for firms are clearly identified.

## 4.2 Implementing comprehensive innovation strategies

The focus on innovation niches should become only the first element in comprehensive innovation strategies which the majority of V4 are still lacking. Such strategies should encompass, **first of all, clearly identified roles for the government** which should act not only as an enabler (responsible for the creation of favorable conditions for innovating), but also as a supporter (which relates to the necessity of adapting the system of grants to the needs of the business community) and as an innovator (leading by example through the introduction of innovation in the administration, and initiating innovation programs in strategic areas).

Secondly, such strategies should focus on **strengthening the links within and between academia, administration and the business community**, which might be facilitated via e.g. the reform of higher education or an introduction of financial incentives (elimination of dis-incentives) for the development of such cooperations.

Third, **special attention should be paid to SMEs**. In particular, governments should increase the access to capital for the SMEs; simplify the grant application procedures; and provide for the long-term consultancy in the development of the companies.

Fourth, **innovation strategies should be stable, medium- to long-term, well communicated and with clearly determined responsibilities and steps of implementation**. In particular, governments should focus on better communication of their medium term visions (e.g. introducing their own versions of the Czechinvest service). They should integrate innovation in all policy fields and demonstrate this to the general public. They should identify lead actors in the administration, making them responsible for the coordination of comprehensive innovation strategies.

Finally, the new strategies should **involve a wider-than-national perspective**. They should address the risks and oppor-

tunities of deepened Common Market and European Research Area. They should also involve the mechanism for an increased cooperation, harmonization and coordination at the V4 level. It would be highly recommended that the V4 countries undertake intensified consultations in drafting their respective long-term innovation strategies.

## 4.3 Re-orienting European funds towards innovation

One of the underlying principles of the new approach should be the recognition of a win-win relationship between innovation and cohesion. The V4 should treat European funds as a powerful leverage for their transformation from efficiency- to innovation-driven economies. However, this would demand a substantial change in their position on a number of the most problematic issues in the European politics.

**The political class in the V4 countries should eventually accept that the only way for a steady growth of their economies leads through Europe and innovation.** In particular, the V4 should take advantage of the coming Hungarian and Polish presidency in order to influence the discussions on the new European Strategy for Employment and Growth, the European Research and Innovation Plan, the future of the Common Agricultural Policy, the next Financial Perspective, the new opening of the Single Market and the future of the Cohesion Policy. In these discussions, they should inter alia aim at basing the new Cohesion Policy on the intellectual capital. They should promote the development of physical infrastructure through the Europe 2020 Strategy and the future Cohesion Policy. Finally, they should support the creation of the European Patent, the deepening of the European Research Area and the inclusion of enhanced international research cooperation in the centre of a new EU Innovation & Research Plan. 🟠







## Footnotes

<sup>1)</sup> "The world turned upside down. A special report on innovation in emerging markets", The Economist, April 17th 2010

<sup>2)</sup> "The new masters of management", The Economist, April 15th 2010

<sup>3)</sup> "Communication from the Commission. Europe 2020, A strategy for smart, sustainable and inclusive growth", March 3rd, 2010

<sup>4)</sup> "Commissioner offers preview of Research and Innovation Strategy", Community R&D Information Service, May 12th, 2010

<sup>5)</sup> "A Strategy for American Innovation: Driving towards sustainable growth and quality jobs", Executive office of the President, National Economic Council, Office of Science and Technology Policy, September 2009

<sup>6)</sup> E. Ferland, "President Obama's Innovation Strategy", Center for Strategic and International Studies, February 19th, 2010

<sup>7)</sup> Global Innovation Report 2009-2010, INSEAD, p. 6

<sup>8)</sup> A. Williams, "Wikinomics and the Era of Openness. European Innovation at a Crossroads", The Lisbon Council e-brief, Issue 05/2010, p. 2-3

<sup>9)</sup> J. Danguy, B. van Pottelsberghe de la Potterie, "Cost-Benefit Analysis of the Community Patent", Bruegel Working Paper 2009/08, December 2009; B. van Pottelsberghe de la Potterie, "Lost Property: the European patent system and why it doesn't work", Bruegel Blueprint 9, 2009

<sup>10)</sup> B. van Pottelsberghe, "Europe should stop taxing innovation", Bruegel Policy Brief, March 2010

- <sup>11)</sup> „Creating an Innovative Europe”, Report of the Independent Expert Group on R&D and Innovation appointed following the Hampton Court Summit and chaired by Mr. Esko Aho, 2006, p. 25
- <sup>12)</sup> R. Veugelers, „Assessing the potential for knowledge-based development in transition countries”, Bruegel Working Paper, May 2010
- <sup>13)</sup> European Innovation Scoreboard 2009
- <sup>14)</sup> European Innovation Scoreboard 2008
- <sup>15)</sup> M. Kanerva, H. Hollanders, „The Impact of the Economic Crisis on Innovation. Analysis based on the Innobarometer 2009 Survey”, InnoMetrics, December 2009, p. 3
- <sup>16)</sup> <http://www.mpo.cz/dokument65232.html>
- <sup>17)</sup> European Innovation Progress Report 2009, PRO INNO Europe, p. 6-7
- <sup>18)</sup> World Bank, 2008, Global Economic Prospects 2008 – Technology diffusion in the developing world, p. 2-15
- <sup>19)</sup> R. Veugelers, M. Mrak, „The Knowledge Economy and Catching-up Member States of the European Union”, Report prepared for the Commissioner’s Potocnik’s Expert Group „Knowledge for Innovation”, May 2009, p.5
- <sup>20)</sup> Measured as a share of sales of new/improved products and a share of sales of market novelties; R. Veugelers, “A lifeline for Europe’s Young Radical Innovators”, Bruegel Policy Brief, March 2009
- <sup>21)</sup> A. Piesiak, P. Świeboda, „Just do it! Meeting the Innovation Challenge in the European Union: Recommendations for the New Member States”, demosEU-ROPA-Centre for European Strategy, October 2006, p. 30
- <sup>22)</sup> Ibidem
- <sup>23)</sup> Ibidem, p. 19
- <sup>24)</sup> Ibidem
- <sup>25)</sup> D. Foray, P.A. David, B. Hall, „Smart Specialisation – The Concept”, Knowledge Economists Policy Brief No.9, June 2009, p. 3
- <sup>26)</sup> D. Foray, „Understanding ‘Smart Specialisation’”, [in:] „The Question of R&D Specialisation: perspectives and policy implications”, European Commission Directorate-General for Research, 2009, p. 26
- <sup>27)</sup> Ibidem, p.2

- <sup>28)</sup> D. Foray, „Understanding...”, op. cit., p. 24
- <sup>29)</sup> [www.hungarianbiotech.org/html\\_hun/doc/report\\_all.pdf](http://www.hungarianbiotech.org/html_hun/doc/report_all.pdf)
- <sup>30)</sup> Creating an Innovative Europe, op. cit., p. 8
- <sup>31)</sup> U. Varblane, K. Ukrainski, J. Masso, „Is smart specialisation a tool for enhancing the international competitiveness of research in CEE countries within ERA?”
- <sup>32)</sup> In 2009, during International Invention Fair ‘Women Investor 2009’ in Seoul, Anna Pinar, Romualda Koźmińska received a Special Award for ‘Antistatic polyester knitted fabrics applied as finishing accessories of protective clothing used in areas of explosion hazard’, while Małgorzata Cieślak, Irena Kamińska and Stanisława Wróbel received a Special Award for ‘Anti dust mites carpets’. The Institute received further four awards on the same fair.
- <sup>33)</sup> See the Website of one of the platform’s members: [www.thalesnano.com](http://www.thalesnano.com)
- <sup>34)</sup> A. Bhidé, „The proposer’s opening remarks”, March 22nd, 2010, <http://www.economist.com/debate/days/view/483>
- <sup>35)</sup> D. Sandalow, „The opposition’s opening remarks”, March 22nd, 2010, <http://www.economist.com/debate/days/view/483>
- <sup>36)</sup> „A Strategy for American Innovation”, op.cit.
- <sup>37)</sup> M. Kanerva, H. Hollanders, op. cit., p. 5
- <sup>38)</sup> „Innovation requires an environment conducive to taking risks in order to flourish”, Global Innovation Index 2009-10, op.cit., p. 36
- <sup>39)</sup> K. Klonger, „Niemal każdy chce być inżynierem budownictwa”, Dziennik Gazeta Prawna, April 14th, 2010, p. A10
- <sup>40)</sup> [www.uczelnia2020.pl](http://www.uczelnia2020.pl)
- <sup>41)</sup> “European Innovation Progress Report 2009”, PRO INNO Europe, January 2010
- <sup>42)</sup> J. Fagerberg, M. Srholec, “National innovation systems, capabilities and economic development”, Research Policy, Vol. 37(9), October 2008, pp. 1417-1435
- <sup>43)</sup> “European Innovation Progress...”, op.cit., p. 32
- <sup>44)</sup> Ibidem, p. 10

<sup>45)</sup> D. Klonowski, "Innowacyjność sektora MSP w Polsce. Rządowe programy wsparcia a luka finansowa", Warsaw 2009

<sup>46)</sup> Ibidem

<sup>47)</sup> D. Archibugi, "The Globalisation of Technology and the European Innovation System", Prepared as part of the project "Innovation Policy in a Knowledge-Based Economy" commissioned by the European Commission, May 2000



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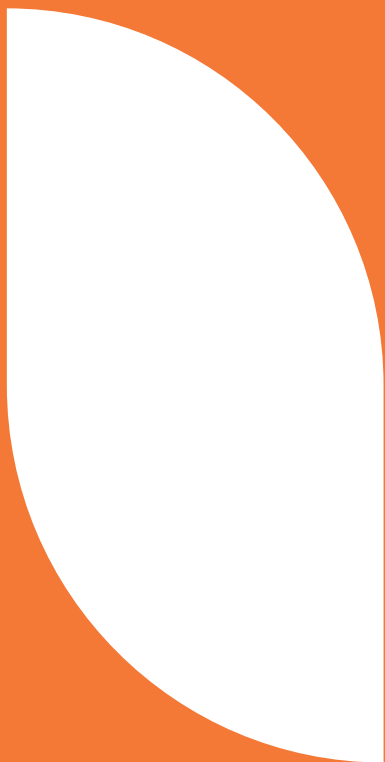
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