



JRC SCIENCE FOR POLICY REPORT

Smart Specialisation in the world, an EU policy approach helping to discover innovation globally

*Outcomes, lessons and
reflections from the first
global workshop on
Smart Specialisation*

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Table of Contents

Abstract	1
Foreword.....	2
Acknowledgements	3
Executive summary.....	4
1. Introduction.....	5
2. Smart Specialisation worldwide: how and why a concept developed in the EU is inspiring innovation policies across the globe.....	7
2.1 From the EU to the world: the added value of Smart Specialisation beyond EU borders.....	8
2.2 From the world back to the EU: Smart Specialisation worldwide as a positive vehicle for EU international relations	10
3. Smart Specialisation at work in the world: overview of experiences and lessons learnt.....	11
3.1 Smart Specialisation in the Americas, initiatives towards decentralised innovation policies	11
3.2 Smart Specialisation in Asia and Oceania, an inspiration for place-based innovation	13
3.3 Smart Specialisation in Africa, a driver for development?	15
4. The way forward: keeping momentum and fostering collective action.....	18
4.1 Towards a Smart Specialisation worldwide community?.....	18
4.2 Smart Specialisation, a possible tool for the achievement of the Sustainable Development Goals	18
5. Conclusions.....	21
References.....	22
List of abbreviations and definitions	23
List of figures	24
List of tables	25
Annexes	26
Annex 1. Agenda of the workshop "Smart Specialisation: From the EU to the world" – 25 September 2018 – Seville – Spain	26
Annex 2. Testimonials from experts gathered at the workshop "Smart Specialisation: From the EU to the world" – 25 September 2018 – Seville – Spain.....	29
Annex 3. List of participating organisations	32
Annex 4. Country profiles.....	34

Abstract

The first global workshop on Smart Specialisation was organised in Seville on 25 September 2018. This workshop has showcased the variety of experiences and interests generated by Smart Specialisation on the five continents and represented a first step towards the creation of an international community of Smart Specialisation. Building on the outcomes and lessons from this event, the present Science for Policy report brings together experiences, policy aspects, challenges and opportunities gravitating around the topic of Smart Specialisation worldwide, and elaborates on the further international potential of the Smart Specialisation concept and approach.

Foreword

By Charlina VITCHEVA, Deputy Director-General, Joint Research Centre, European Commission

Since the beginning of Smart Specialisation in the EU, less than 10 years ago, significant steps have been made. Over 120 Smart Specialisation Strategies were developed by EU regions and Member States, with more than 160 of them working together in the Smart Specialisation Thematic Platforms on energy, agri-food and industrial modernisation around 30 interregional partnerships. As well, almost 200 regions and 26 countries within and outside the EU are active on the Smart Specialisation Platform. All these developments can be framed under a common denominator: "Made in EU: Smart Specialisation inspires the world".

It was this inspiration that gathered together Smart Specialisation programmes from across the world at the first global workshop on Smart Specialisation, organised by the Joint Research Centre in Seville in September 2018. It was my honour to be part of this event. The experiences shared by around 130 participants from about 30 countries shed light on the potential of Smart Specialisation to foster place-based economic transformation across the globe. Both countries that are already applying Smart Specialisation, or elements of it, and countries where it is not yet concretely deployed, praised the fact that Smart Specialisation has the innate flexibility to adapt to hugely diverse territorial realities. Far from a "one size fits all" approach, Smart Specialisation comes from the regions and goes to the regions and is therefore genuinely rooted in the territory of the regions.

Looking forward towards Smart Specialisation 2.0, there is undoubtedly potential to anchor Smart Specialisation as a distinctive global EU influence for territorial development policies led by innovation across the world. Moreover, Smart Specialisation is acknowledged as a powerful enabling methodology for achieving the Sustainable Development Goals, notably via Science, Technology and Innovation Roadmaps. In this way, there is clear scope to promote Smart Specialisation as a driver for sustainable growth models, contributing to the 2030 Agenda of the United Nations for Sustainable Development.

I heartily recommend the outcomes of this first global workshop to inform and inspire other regions across the world and look forward already to a second edition.



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Executive summary

Policy context

Smart Specialisation, as a place-based and innovative approach to innovation, was conceived as a "Made in EU" concept associated to the European cohesion policy. Under this umbrella, it has triggered the development of more than 120 Smart Specialisation Strategies among European Union (EU) regions and Member States in recent years.

Nonetheless, the European roots of Smart Specialisation have gradually grown beyond EU borders. Smart Specialisation has started inspiring, at different levels, several countries and regions belonging to the European Enlargement Policy, the European Neighbourhood Policy and more widely, Australia, Brazil, Chile, Colombia, Mexico, Norway, Peru, China, Thailand, the United States of America, Canada and Africa, among others.

Key conclusions

The Smart Specialisation approach has a great potential to be implemented across the world. Its methodological characteristics and driving principles, which are widely tested and applied in the territorial diversity present in the EU, can be compatible with, and useful in different socio-economic and territorial contexts around the world.

Recent experiences of Smart Specialisation across the world have confirmed that this approach does not only have an added value at European level, but also at a global scale. Spillover effects go both ways: not only does the application of Smart Specialisation outside the EU nurture the development of place-based research and innovation policies around the world, but it can also have a multiplier impact on the EU by fostering learning and opening up avenues for inter-regional and international synergies, complementarities and collaboration. This corroborates the opportunity and the potential of pursuing a Smart Specialisation type of method in "localising" innovation policies.

Related and future work of the Joint Research Centre (JRC)

The Joint Research Centre, through its Smart Specialisation Platform, is monitoring the developments and progress on the implementation of Smart Specialisation in several countries around the world. The Smart Specialisation Platform has provided methodological support and advice to policy-makers and stakeholders of more than 20 non-EU countries in the application of Smart Specialisation. To date, the Smart Specialisation Platform offers the possibility to non-EU national and regional authorities to be active members of the Platform and thus collaborate with EU partners and learn from each other's experiences.

Looking forward, there is scope for going further in the endeavour towards Smart Specialisation worldwide as a "Made in EU" touch for territorial development policies led by innovation around the world, in two respects: (i) the malleability and adaptability of Smart Specialisation to diverse realities increases its potential for application in all territories, be it developed or developing countries, or economies in transition. This, combined with a number of cross-cutting issues of common interest such as the ambition to improve the research and innovation fabric or the development of regional innovation ecosystems and regional identities, could favour the emergence of genuine Smart Specialisation worldwide communities; (ii) Smart Specialisation appears to be a promising enabling methodology for the achievement of the Sustainable Development Goals under the United Nations' 2030 Agenda for Sustainable Development.

1. Introduction

Smart Specialisation is an innovative policy approach that aims to boost jobs and growth by enabling the identification and development of competitive advantages. Key characteristics of Smart Specialisation are, among others, the place-based dimension, which relates to a strong anchorage in territories; the bottom-up character nurtured by an inclusive dialogue among local authorities, academia, business spheres and the civil society (the so-called quadruple helix); the identification of investment priorities based on local assets and resources as a result of an Entrepreneurial Discovery Process; and the flexibility of the mechanism allowing improvements, modifications or reassessments throughout the intervention process. In addition, Smart Specialisation promotes interregional and cross-border partnerships in areas such as industrial modernisation, digitalisation, the energy transition and agri-food. Expected achievements by 2020 include bringing 15,000 new products to market and creating 140,000 new start-ups and 350,000 new jobs.

In the EU, over the past five years, more than 120 Smart Specialisation Strategies have been developed by Member States and regions. Since 2011, EU regions and Member States have actively embarked in the Smart Specialisation effort in the context of the European cohesion policy. Financially, Smart Specialisation Strategies have been supported with more than EUR 67 billion available under the European Regional Development Fund (ERDF), together with national and regional funding.

Beyond EU borders, the Smart Specialisation approach is present, at varying scales, in many other countries and regions around the world. Since 2016, building on the experiences and achievements of Smart Specialisation in the EU, the Joint Research Centre has been working with countries under the EU Neighbourhood and Enlargement Policy, in order to assist the methodological reflections on developing Smart Specialisation Strategies. Smart Specialisation is also present in Australia, Brazil, Chile, Colombia, Mexico, Norway and Peru, as these countries have developed concrete policy actions ranging from pilot activities to structured nation-wide approaches. In other countries such as China, the United States of America, Canada and some countries of Africa, Smart Specialisation has raised the attention of several types of stakeholders, including policy-makers and representatives from the academia.

Against this background, the first global workshop on Smart Specialisation was organised by the Joint Research Centre¹ in September 2018. The event: "Smart Specialisation: From the EU to the world" was organised by the Smart Specialisation Platform in Seville on 25 September 2018 and brought together around 130 participants from the policy-making, academic and international organisation spheres, representing about 30 countries on the five continents. Key elements of Smart Specialisation with potential for international projection were recognised in its place-based approach tailored to territorial identities, identification of competitive advantages and cooperation between innovation actors. Also, Smart Specialisation was seen as a malleable instrument able to adapt to the diverse territorial realities through an inclusive dialogue leading to discover local innovation potentials.

The global workshop on Smart Specialisation has represented a first step towards the creation of an international community of Smart Specialisation. The event on Smart Specialisation worldwide has showcased the variety of experiences and interests generated by Smart Specialisation on the five continents, and shed light on common and distinctive elements of its implementation in different socio-economic environments. Among the commonalities, the ambition to improve the research and innovation fabric or the development of regional innovation ecosystems and regional identities emerged as transversal features.

The workshop also confirmed that Smart Specialisation is well equipped to address global challenges and contribute to the EU international action. In May 2017, the European Commission's Reflection Paper on Harnessing Globalisation (European Commission, 2017) emphasised the need to "make Europe a more competitive and innovative economy, in close partnership with more empowered regions", in line with the essence of Smart Specialisation. Moreover, Smart Specialisation has a strong potential to participate in making the EU an influential global player on the world scene and a partner for Africa, as stressed by President Juncker in his 2018 State of the Union address (Juncker, 2018). In particular, Smart Specialisation would be able to serve as a relevant vehicle for the achievement of the 2030 Agenda of the United Nations for Sustainable Development and the Sustainable Development Goals, especially through Science, Technology and Innovation Roadmaps. The relevance of Smart Specialisation and the related interregional thematic partnerships for sustainable development is corroborated by the Reflection Paper – Towards a sustainable Europe by 2030 (European Commission, 2019).

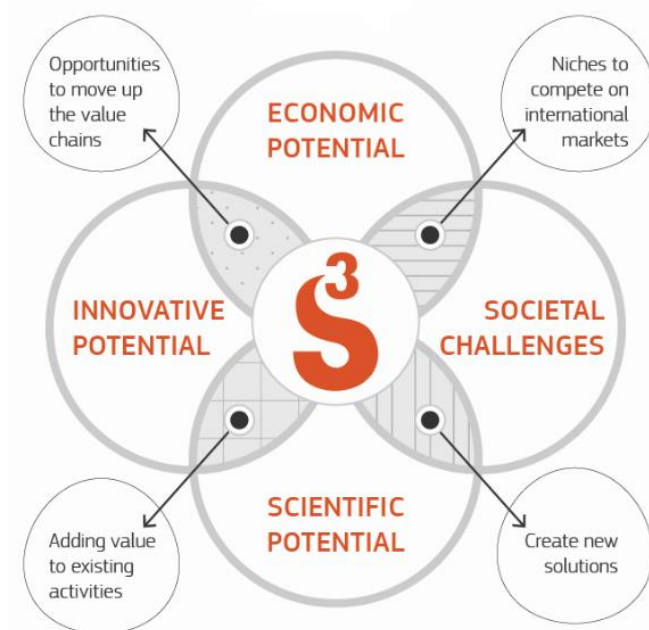
¹ Information about this workshop, including video recording and presentations, are available at: <http://s3platform.jrc.ec.europa.eu/-/smart-specialisation-from-the-eu-to-the-world?inheritRedirect=true&redirect=http%3A%2F%2Fs3platform.jrc.ec.europa.eu%2Fhome>

The present report is structured in three sections. The first part highlights the main elements driving global interest on the Smart Specialisation approach. The second part provides an overview of the EU framework supporting Smart Specialisation in third countries, including relations between the EU and its international partners, as well as regional experiences in the geographical areas of the Americas, Asia, Oceania and Africa. The third part elaborates reflections on the potential role of an international community of Smart Specialisation, taking stock of the lessons and outcomes delivered in the first global workshop on Smart Specialisation and touching upon potential narratives of Smart Specialisation in different geographical contexts. This last part also stresses the promising role of Smart Specialisation as enabler of the international agenda on sustainable development. Conclusions containing policy reflections for the future work on Smart Specialisation worldwide come at the end of this publication.

2. Smart Specialisation worldwide: how and why a concept developed in the EU is inspiring innovation policies across the globe

Smart Specialisation is a pioneering approach enabling an integrated economic transformation agenda via research and innovation anchored in territories. It allows the identification and the development of competitive advantages by concentrating efforts and resources on the discovery of innovation niches. Smart Specialisation advocates the conjugation of the economic, innovative and scientific potential of a territory and aims to address societal challenges (see Figure 1).

Figure 1. Smart Specialisation concept



Source: Joint Research Centre, Smart Specialisation Platform

The increasing development of Smart Specialisation pockets across the globe has shown that the Smart Specialisation concept and approach do not only have an added value at European scale, but also at global level. This pleads for the deployment of a full-fledged activity on Smart Specialisation worldwide. One of the key merits of the international application of Smart Specialisation is that it is mutually beneficial to the EU and to countries outside the EU.

2.1 From the EU to the world: the added value of Smart Specialisation beyond EU borders

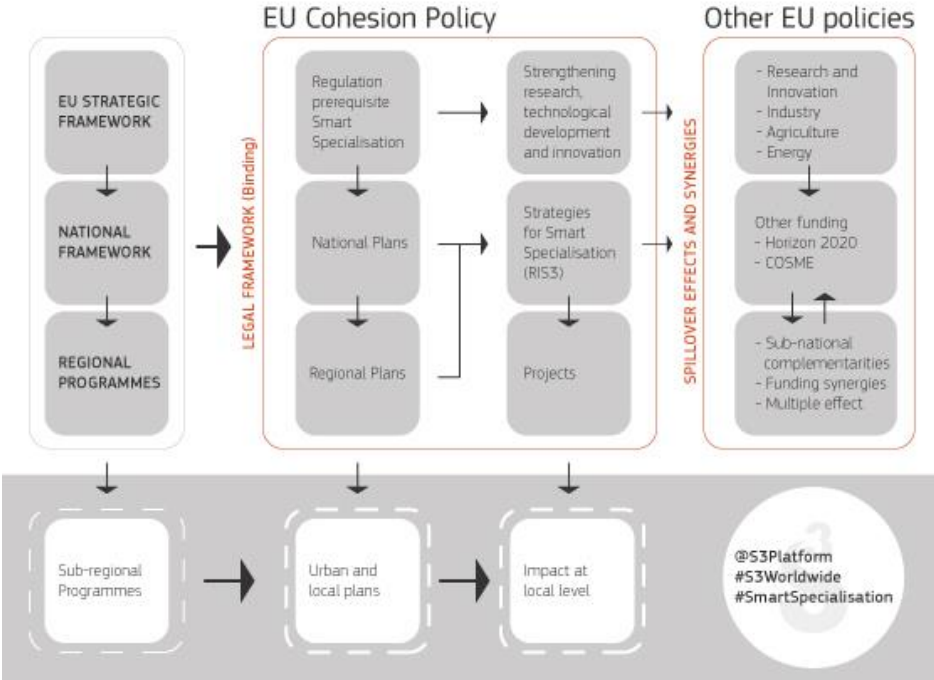
Building on the experiences observed so far, Smart Specialisation worldwide is associated with three-fold gains for countries around the world. First, they can benefit from the solid methodology inherent in Smart Specialisation. Since 2011, the Smart Specialisation Platform has elaborated comprehensive guidance on Smart Specialisation Strategies (European Commission, 2012), which outlines the core ingredients of Smart Specialisation. These include six main steps, namely (i) the diagnosis of the regional context and the analysis of the potential for innovation, taking place through an Entrepreneurial Discovery Process, (ii) the setting-up of proper governance ensuring inclusiveness and ownership, (iii) the design of a strategic territorial vision, (iv) the identification of selected priorities, (v) the definition of a policy mix, including action plans and delivery mechanisms to implement these priorities, and (vi) the incorporation of monitoring and evaluation systems (see Figures 2 and 3). Several countries outside the EU, like Australia or Serbia, are developing Smart Specialisation Strategies based on this methodology. In addition, inspired by the European experience of the Smart Specialisation Platform hosted by the Joint Research Centre and run in collaboration with the Directorate-General for Regional and Urban Policy, some countries, like Mexico or Brazil, are engaged into setting up Platforms dedicated to Smart Specialisation. Not only can the methodology associated to Smart Specialisation trigger place-based innovation policy initiatives, but it has also been praised by international organisations – in particular United Nations' bodies – and countries – notably Mexico, Serbia, Tunisia and Australia – as a vehicle for the implementation of the Sustainable Development Goals (see section 4).

Figure 2. Smart Specialisation methodology



Source: Joint Research Centre, Smart Specialisation Platform

Figure 3. Smart Specialisation in the EU seen from the policy angle

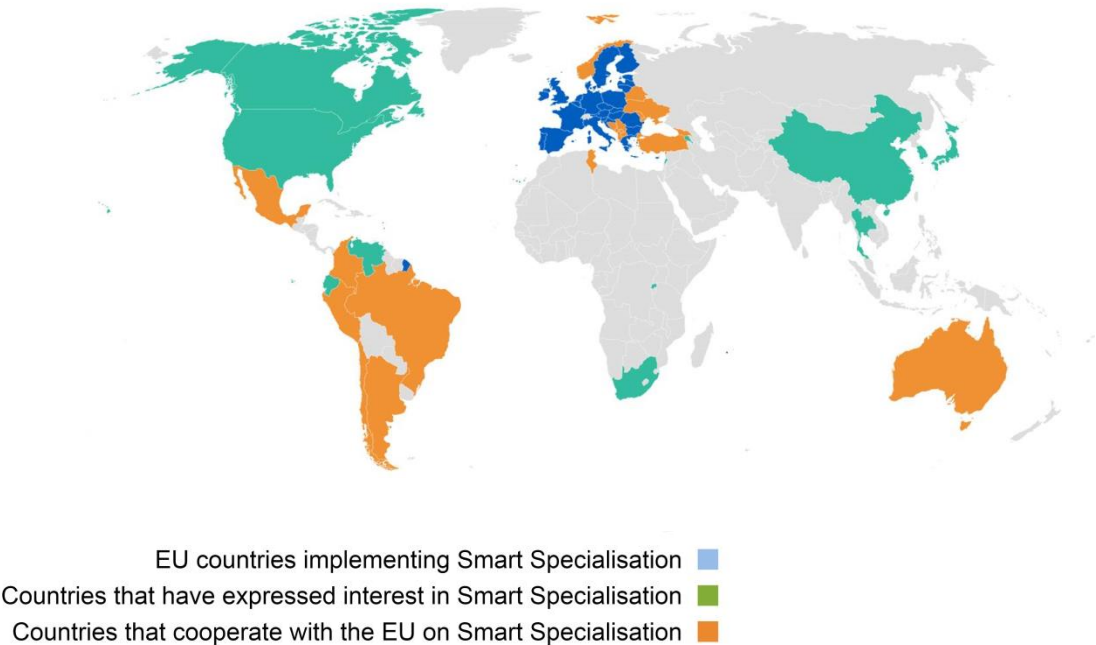


Source: Joint Research Centre, Smart Specialisation Platform, adapted from Castillo et al.

Second, Smart Specialisation can foster economic transformation and contribute to building robust regional innovation ecosystems around the world. One of the main features of Smart Specialisation is its malleability to a diversity of national, regional and local contexts. This stems from the fact that Smart Specialisation is a genuinely place-based approach tailored to territorial identities and specificities. For instance, in line with Smart Specialisation, the research and innovation strategies from Brazil, Mexico and Colombia include diverse areas such as the garment and automotive sectors in the Pernambuco and Goiás states (Brazil), human capital, innovation, regional development, and activities of science, technology and innovation in Mexico and biotechnology, robotics and photonics in the Bogota region (Colombia). The benefits stemming from Smart Specialisation go beyond the economic remit: in the case of Enlargement and Neighbourhood countries, on top of its role in building knowledge-based competitive advantages for territories, Smart Specialisation supports also more democratic and transparent policy-making, resilience and finding innovative answers to societal challenges. In a nutshell, Smart Specialisation can foster place-based transformation across the globe.

Third, several countries and regions on the five continents, aware of the achievements of Smart Specialisation, have taken steps towards it. Building on European successes and experiences, a series of Smart Specialisation experimentations is gaining traction in Enlargement and Neighbourhood countries, and generally throughout the world (see Figure 4). So far, Smart Specialisation, or elements of it, are present, at different stages of implementation, in Australia, Brazil, Chile, Colombia, Mexico, Peru and Norway. In addition, Smart Specialisation is attracting interest in China, Thailand, Africa, the United States of America and Canada, among others. The extent and the depth of dialogue vary from early-stage dialogue (the United States of America, Canada, Ecuador, Venezuela, Armenia, Lebanon, South Korea, China, Thailand, Japan, Rwanda and South Africa), to first cooperation steps (Peru, Chile, Argentina, Colombia, Georgia, Belarus, Bosnia and Herzegovina, Kosovo² and Turkey) and full-fledged cooperation (at different levels, Norway, Mexico, Brazil, Australia, Serbia, Moldova, Ukraine, Montenegro, Tunisia, North Macedonia and Albania).

Figure 4. Map of place-based innovation policies in the world



Source: Joint Research Centre, Smart Specialisation Platform

² This designation is without prejudice to positions on status, and is in line with UNSCR 1244/1999 and the ICJ Opinion on the Kosovo declaration of independence.

2.2 From the world back to the EU: Smart Specialisation worldwide as a positive vehicle for EU international relations

Through Smart Specialisation worldwide, the EU can be a frontrunner in the promotion of place-based innovation policies across the globe. In a context where a number of countries and regions have already expressed an interest for the Smart Specialisation concept elaborated in the EU, going further towards Smart Specialisation worldwide could allow anchoring Smart Specialisation as a distinctive global EU influence for territorial development policies driven by innovation all over the world.

Engaging in Smart Specialisation beyond EU borders can be beneficial to the EU, notably in terms of learning. Since its inception, Smart Specialisation has been a living process fed by experience and knowledge sharing, feedback from the various stakeholders involved in its design and implementation, or the identification of good practices. Therefore, far from the unilateral export of an EU notion, the manifestations of Smart Specialisation worldwide would be highly valuable for the EU to learn from other countries' practices and application of this approach.

Smart Specialisation can be seen as the common denominator of EU international initiatives in the area of research and innovation. Building on their respective expertise, several services from the European Commission, as well as the European External Action Service in charge of diplomatic affairs, are involved in activities linked to innovation policies around the world. In particular, the International Urban Cooperation Programme, the EU-Community of Latin American and Caribbean States (CELAC) Joint Initiative for Research and Innovation, sectoral dialogues with Brazil, the INNOV-AL project, the INNOVACT Platform, the Dialogue Facility South Africa-EU, the Research Framework Agreement between the EU and China, or the Centre of Excellence on Smart Specialisation by the Royal Melbourne Institute of Technology in Australia count among the main projects around innovation in which the EU is engaged internationally, beyond the scope of European Enlargement and Neighbourhood countries. Thanks to its broad approach to innovation bridging policy silos and to the transformative changes that it steers in innovation ecosystems, Smart Specialisation has proven to be, explicitly or implicitly, a narrative shared by all these initiatives.

Smart Specialisation worldwide can help to strengthen the cooperation of EU countries and regions with the rest of the world, and thus facilitate their integration in global value chains. By fostering contacts and closer links with all continents, Smart Specialisation worldwide creates opportunities to identify common domains of specialisation or areas of interest, and exploit complementarities or similarities between EU territories and countries and regions around the world. In turn, this creates real bridges across continents, enlarges the scope of possible collaboration partners for the EU, opens up business opportunities and ensures better access to global value chains.

The internationalisation of Smart Specialisation may also participate in the endeavour towards science diplomacy. Smart Specialisation, which notably favours the interaction between research and policy, can contribute to the overarching goal of connecting science and diplomacy and elevate the place of research in foreign policy. Moreover, by capitalising on the endogenous assets of regions and countries, Smart Specialisation is also a way to valorise territories, enhance their attractiveness and tackle the phenomenon of science and innovation diasporas, both within the EU and outside the EU.

3. Smart Specialisation at work in the world: overview of experiences and lessons learnt

The first global workshop on Smart Specialisation has provided a 360° overview of Smart Specialisation developments on the five continents. After setting the scene and highlighting the potential of Smart Specialisation worldwide, three roundtables composed of recognised academics, experts from international organisations, policy-makers and practitioners of Smart Specialisation, successively examined the development of Smart Specialisation in the Americas, Asia, Oceania and Africa. The main messages of these exchanges are analysed in the following subsections.

3.1 Smart Specialisation in the Americas, initiatives towards decentralised innovation policies

Smart Specialisation is an outstanding example of the power of ideas at the right time and at the right place. The EU experience on Smart Specialisation has allowed bringing ideas from research activity into the policy process to develop not only interest at national policy-making level, but also a sustained focus at subnational level. On this basis, it has been possible to attract additional resources and provide a platform for coordination, cooperation and stimulation of dialogue between businesses, public administrations and universities. When looking at Smart Specialisation as an inspirational approach in the Americas, both specific elements at country level and issues common to the whole continent, help to understand this characterisation.

Mexico has made progress to combine innovation policy action engaging national and state administrative levels, notably through 32 State Innovation Agendas and 3 regional ones. A joint work of the National Council for Science and Technology (CONACYT) and the State of Colima led to the identification of several areas of specialisation in the domains of agri-food, energy, logistics, biotechnology, tourism, information technologies, mining, construction and manufacturing of non-metallic minerals. This policy process is notably reflected in the Regional Innovation Agenda of Colima (CONACYT, 2015), which situates the port of Manzanillo as a territorial asset with high capacity to drive innovation in the logistics domain. In addition, a technology roadmap was developed, engaging academia, the public and the private sector, social organisations and non-governmental organisations and targeting the setting-up of a cluster and hub of logistics, smart port and research and innovation labs.

Brazil has moved from pilot action towards the consolidation of a customised approach. The application of Smart Specialisation in Brazil looks at the identification of priorities, the silo-breaking dimension and the acknowledgment of local assets as main inspirational aspects. As an initial step, a pilot exercise conducted in 2015 experienced Smart Specialisation in the state of Pernambuco. Such experiment highlighted the added value of the Entrepreneurial Discovery Process and the relevance of priorities in the areas of clothing and the automotive sector. Taking stock of this experience, other initiatives have been implemented in the country addressing: the customisation process of Smart Specialisation (Sectoral Dialogues, 2018a); the implementation of a policy platform for the promotion of decentralised innovation policies³; and the experimentation of Smart Specialisation in the urban dimension (Brazilian Institute of Science and Technology (IBICT), 2017). These on-going initiatives will be cross-fertilised by the Brazilian Institute of Science and Technology (IBICT) in the framework of a Brazilian Smart Specialisation Platform (Sectoral Dialogues, 2018b).

Canada is engaged towards local specialisation, cluster policies and scale-up to achieve global connectivity. In Canada, Smart Specialisation is of particular interest thanks to its capacity to increase territorial connectivity, identify and facilitate critical mass in innovation ecosystems and integrate scaling-up activities. With the concern of the productivity gap faced by Canada in relation to the United States, research activity (Muro et al., 2018) has analysed two key dimensions: the local one looking at region-by-region level and the industrial one focused on advanced industries, which highly rely on Research and Development (R&D). On a region-by-region basis, the example of Ontario shows how specialisation is taking place in its provinces (see Figure 5). The results of this research reveal a lack of global connectivity in Canada and little density in tech ecosystems. Despite good performance in entrepreneurship and start-ups, the challenge remains in scaling up related activity

³ INNOV-AL project.

into global markets. Against this background, monitoring and adoption of Smart Specialisation as a good practice, as well as the exploration of network-building policies such as clusters, appear as desirable avenues.

Figure 5. Ontario's five largest concentrations (specialisations)



Source: Greg SPENCER, Brookings' analysis of Moody's Analytics data

Transversal elements of Smart Specialisation can be detected in the Americas. Within a more general perspective, Smart Specialisation processes in the American continent should integrate the following aspects:

- The risk of overspecialisation and the importance of new socio-economic trends with an impact on the quality of life in cities, inequalities, exclusion and homelessness need to be taken into account.
- The experience with cluster policies represents a key instrument to facilitate the implementation of Smart Specialisation, not as a new policy approach but as a complementary one.
- The international relations and transcontinental policy dialogues with EU pairs can facilitate a rapid and effective entry of Smart Specialisation.
- Governance should not be always imposed at regional level. It is also possible to deploy it at national level, or in metropolitan or urban areas.
- Customisation processes may take place, strongly focused on: (i) linking enterprises, academia, governments and the civil society in a balanced symbiosis, (ii) assuring right levels of information on territorial dynamics and actors and (iii) improving the capacity of governments to coordinate the necessary interaction among stakeholders.

Table 1 summarises both inspirational – related to the application of the Smart Specialisation concept by respecting its core principles and characteristics – and new elements – the adaptation driven by third countries' and regions' specificities – attributed to Smart Specialisation in Mexico, Brazil and Canada, as well as associated challenges. An approximation of common aspects applying to the whole continent is also integrated in the table.

Table 1. Characterisation of Smart Specialisation in the Americas

Smart Specialisation	Mexico	Brazil	Canada
Inspirational elements of Smart Specialisation	<ul style="list-style-type: none"> • Joint work at national and subnational levels • Identification of innovation priorities • Inclusive dialogue of the quadruple helix 	<ul style="list-style-type: none"> • Acknowledgment of local assets and resources • Silo-breaking approach 	<ul style="list-style-type: none"> • Scaling-up activity into global markets • Identification and facilitation of innovation ecosystems
New elements to Smart Specialisation	<ul style="list-style-type: none"> • Integration of cluster policy • Technology roadmaps 	<ul style="list-style-type: none"> • Customisation process of Smart Specialisation • Policy platform at country level • Capitalisation of pilot experiences 	<ul style="list-style-type: none"> • Research activity and evidence from recognised institutions • Jobs forecast in concrete domains of specialisation
Challenges ahead	<ul style="list-style-type: none"> • Connect regional innovation with other territories • Funding 	<ul style="list-style-type: none"> • Availability of the information at the appropriate granularity • Institutional capacity to formulate, implement and monitor policies 	<ul style="list-style-type: none"> • Productivity gaps • Increase competitive advantages • Optimisation of Foreign Direct Investments
Common aspects in the Americas	<ul style="list-style-type: none"> • Risk of overspecialisation • Importance of new trends: quality of life in cities, inequalities, exclusion and homelessness • International framework positioning innovation at subnational level as a central topic 		

Source: Joint Research Centre, Smart Specialisation Platform

3.2 Smart Specialisation in Asia and Oceania, an inspiration for place-based innovation

Innovation, egalitarian societies and sustainable growth feature high in Asia. Asia hosts approximately 60% of the world population, as well as some of the most innovative countries such as Singapore, Korea and Japan, some of them with an innovation level far beyond the EU one. Frugal innovation and entrepreneurship are dominant elements when addressing Smart Specialisation potentialities on this continent, as they contribute to the scalability perspective. Moreover, although Asia includes some of the most economically egalitarian societies in the world, there are also countries in the very opposite situation. For instance, in India, 1% of the richest people represent more than half of the country's wealth, and half of the country's poor population only represents 4% of the country's wealth. These realities stimulate policy reflections on research and innovation strategies for sustainable growth.

In Australia, place-based innovation has emerged as a way of addressing governance barriers. The nature of innovation in Australia, together with the difficulties to find the right institution to lead a Smart Specialisation process, constitutes a key challenge. First, governance is a complex issue in Australia, where three different levels of government (federal, state and local) coexist. In addition, these government levels concur with 55 Regional Development Australia Committees operating across non-metropolitan areas. These Committees attempt to blend different levels of government and stakeholders, but without any particular resources and no competence in relation to land use, planning and social programmes. Second, another difficult issue for Australia lies in the conception of innovation: every ten years, Australia runs a national enquiry about innovation, with a typical conclusion revealing an increasing need for innovation, but with a large emphasis on start-ups. Yet, innovation is rather understood as a linear process where the notion of place-based innovation is missing.

The experience and lessons of Smart Specialisation in the Hunter Valley

In the Hunter Valley, the starting point was to try to understand what innovation meant for the region. Benchmarking activities with a high focus on EU regional innovation index led to approaching the Smart Specialisation concept and application in the Hunter region (Regional Development Australia, 2016). This experience shows that although the interest in Smart Specialisation can increase and take shape, a wider policy framework support from other levels of government is crucially needed to take it forward.

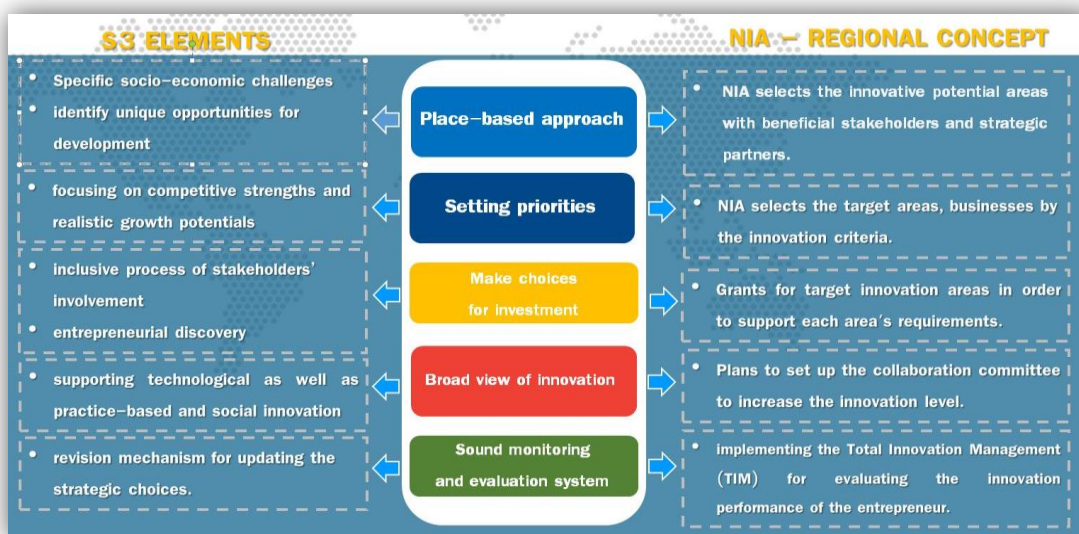
Some elements can help to inspire place-based innovation in Australia. The emphasis on coherence and collaboration (involvement of the quadruple helix) against a history of fragmentation and competition creates momentum and legitimates the role of the public sector. Moreover, the accent on place-based innovation systems represents a significant policy innovation, as well as a spirit of experimentation and learning. In the endeavour towards Smart Specialisation in Australia, rigorous attention to evidence and data, driving clarity about knowledge assets and institutional capability, and identity and ownership are central elements and success factors.

Concrete progress has been observed concerning the promotion of innovation in Australia at governmental level. The document Regions 2030 (Australian Government, 2017) contains a policy statement pleading for combined action of the various government levels. In particular, it identifies 20 initiatives to boost innovation at regional level, with specific funding provisions amounting to 80 billion dollars.

Thailand provides structured support to regional clusters inspired by Smart Specialisation. Under the Ministry of Science and Technology, the National Innovation Agency (NIA) has the mandate of promoting innovation through different mechanisms such as: locally-based innovation, value chain, capabilities, networks, markets and intelligence. From the area-based and regional perspective, clusters are built on cooperation between the government, the private sector, universities and territorial communities. With the mission of pushing forward the area-based innovation and co-create innovative networks of partners in the territory, NIA sets as primary objectives: (i) to link the network of partners to strengthen the regional innovation system, (ii) to provide access to innovative support for entrepreneurs across the region, (iii) to enhance the innovate ability in targeted industries and (iv) to promote the development of innovative capabilities for entrepreneurs.

The way in which Thailand has approached the innovation ecosystem was done through "one solution does not fit all". In the interest and relevance of coordinated action between national and regional authorities, NIA identifies and engages key players (e.g. universities) who are active in the regions. Regional and local authorities follow the national strategy, but this work should not be seen as a constraint. Rather, it is necessary to work locally and understand what the pain points in the regions are. As implementation body, the experience of the NIA working extensively with local partners for ten years has served as a driving element of action. When identifying synergies between the NIA regional concept and the Smart Specialisation approach, some correlations appear as follows.

Figure 6. Synergies between Smart Specialisation and policy intervention by the National Innovation Agency of Thailand



Source: Theresa MATHAWAPHAN, National Innovation Agency (NIA), Thailand

Transversal elements of Smart Specialisation can be identified in Asia and Oceania. Coordinated action between national and regional authorities is essential for proper policy implementation. This requirement is even more relevant when resources are allocated by national levels and innovation happens in local and regional dynamics. Furthermore, data availability represents an important tool to support policy decisions and it can be addressed by stimulating the connectivity of key players. Linking stakeholders is a way of giving prominence to knowledge assets, as they provide insights to discover innovation potential. For instance, tinkering, as a collective exercise to connect stakeholders, offers a problem-solving approach and helps to reflect on how knowledge can be collected and articulated, serving as the basis of competitive advantages.

Table 2 summarises both inspirational – related to the application of the Smart Specialisation concept by respecting its core principles and characteristics – and new elements – the adaptation driven by third countries' and regions' specificities – attributed to Smart Specialisation in Australia and Thailand, as well as associated challenges. An approximation of common aspects applying to the two continents is also integrated in the table.

Table 2. Characterisation of Smart Specialisation in Asia and Oceania

Smart Specialisation	Australia	Thailand
Inspirational elements of Smart Specialisation	<ul style="list-style-type: none"> • Entrepreneurial Process • Knowledge from the quadruple helix 	<ul style="list-style-type: none"> • Identification of local/regional innovation ecosystems • Synergies with Value Chains • One solution does not fit all
New elements to Smart Specialisation	<ul style="list-style-type: none"> • Tinkering • Bottom-up initiatives of Smart Specialisation addressed individually • Quality of relationships among stakeholders 	<ul style="list-style-type: none"> • Targeted work with the most influential agents in the region • Selection of targeted areas by national bodies
Challenges ahead	<ul style="list-style-type: none"> • Bottom-up initiatives of Smart Specialisation with little connection to national policies • Funding 	<ul style="list-style-type: none"> • Data availability
Common aspects in Asia and Oceania	<ul style="list-style-type: none"> • Place-based innovation • Connectivity of stakeholders • Emphasis on knowledge assets 	

Source: Joint Research Centre, Smart Specialisation Platform

3.3 Smart Specialisation in Africa, a driver for development?

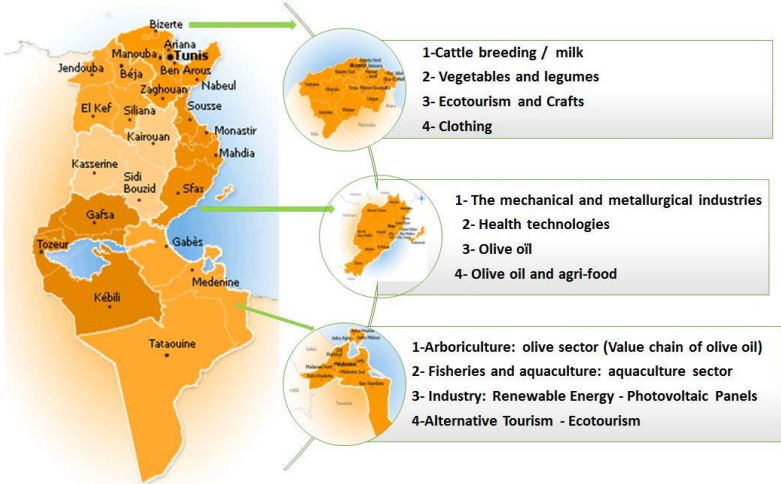
In Africa, Smart Specialisation could provide a collective response to foster sustainability and territorial development. The territorial diversity of the African continent suggests different ways to approach Smart Specialisation through customised processes. Africa is a priority for the EU, which pleads for the establishment of a new Africa-Europe Alliance for Sustainable Investment and jobs (European Commission, 2018). This Alliance coincides in several respects with Smart Specialisation, for example when targeting science and technology strategies in the region to support development, and also as an enabler for the achievement of the Sustainable Development Goals. Key documents and strategies backing up this framework are: the United Nations' 2030 Agenda for Sustainable Development and the Sustainable Development Goals (United Nations, 2015), the EU Global Strategy for Foreign Security (European External Action Service, 2016), the new European Consensus on Development (Joint Statement By The Council And The Representatives of The Governments of The

Member States Meeting Within The Council, The European Parliament And The European Commission, 2017), the African Agenda 2063 (The African Union Commission, 2015) and the Abidjan Declaration (Africa-Europe Youth Summit, 2017), the latter advocating the need to invest in young people to accelerate sustainable growth.

In Rwanda, Smart Specialisation is seen as powerful to address challenges derived from the implementation of innovation policy. As part of its science and technology policy, Rwanda has initiated a revision of its innovation policy since 2016. In this process, several challenges have been identified. First, Rwanda is a newcomer in the use of science and technology to boost the economy. Therefore, it is necessary to catch up with current trends and players and to reflect about how innovation policy should be developed in relation to development policy. Second, the existence – or lack of – of industry represents another challenge, which could be tackled by improving the way of addressing fragmented innovation ecosystems and generating consensus and empowerment. Third, the absence of legislation on research capacity constitutes an additional challenge for Rwanda. Besides challenges, some tools support the implementation of innovation policy in Rwanda, such as a national survey leading to define baseline scenarios, a national innovation fund, and the elaboration of an evaluation and monitoring system. Against this scenario, Smart Specialisation is seen as an impactful policy tool helping to address these challenges.

Tunisia is committed to Smart Specialisation, based on collaboration with the EU. The Tunisian landscape of research and innovation integrates several stakeholders, including sectoral and horizontal actors, laboratories, public and private universities, business centres, private representatives, calibration and certification bodies, techno-parks and technology transfer offices, among others. Tunisia has experienced a growing Smart Specialisation process, which has evolved in several steps. These stages have so far consisted of an informative seminar (May 2016), a training workshop (January 2017), an institutional visit (November 2017) and the official appointment of a Smart Specialisation National Steering Committee, including the identification of three pilot areas (May 2018) to finally adopt a National Strategy on Smart Specialisation and Open Data. The experience of Tunisia has contributed to establishing a Smart Specialisation dialogue with other countries in the Mediterranean Region (e.g. Third Ministerial Conference on Research, Innovation and Higher Education of the Dialogue 5+5⁴, 2017). In addition, it has helped to initiate policy processes in other countries (e.g. Technical Assistance and Information Exchange instrument (TAEIX) in Ukraine, 2018).

Figure 7. Tunisian pilot areas for policy intervention addressing Smart Specialisation



Source: Amani CHARRAD, National Agency for Scientific Research, Tunisia

In South Africa, Smart Specialisation would serve as a driver for territorial planning. South Africa is characterised by a skewed legacy of spatial planning. Over the last fifteen years, various interactions of planning instruments have occurred at three administrative tiers: (i) national level with the national development plan, (ii) provincial level with growth and development strategies and (iii) local level with an integrated development framework. More recently, the launching of two strategic documents gave a perspective to the innovation policy in South Africa: the first is the National Development Framework, which sets a vision for South Africa by 2030 by

⁴ This involves five countries from the North of the Mediterranean (Spain, France, Italy, Malta and Portugal) and five from the Southern shore (Algeria, Libya, Morocco, Mauritania and Tunisia).

addressing the triple challenge of poverty, unemployment and inequality, and highlights the role of education and skills in science and innovation. The second document is the Science and Technology White Paper, which embeds the role of science and technology across Ministries and includes reflections to capitalise on traditional sectors and support new ones (e.g. Industry 4.0, Artificial Intelligence, Big Data and Information and Communication Technologies). In general, South Africa currently has several planning tools at different levels and Smart Specialisation would be part of them. Social innovation in particular would help to address socio-economic issues and discover new tendencies on innovation at local level. In a broader territorial perspective, South Africa is part of the Southern African Development Community (SADC), whose Industrialisation Action Plan identifies strategic sectors and countries that could be part of related value chains and clusters.

In synthesis, understanding the Smart Specialisation methodology in a simple way is of critical importance for newcomers on this approach.

The mapping of stakeholders and territorial strengths can be useful as a starting point in territories with a lack of institutional capacity. Other key aspects such as awareness, capacity building and multi-stakeholder cooperation allow not only to implement Smart Specialisation, but also to think about relevant economic growth paths. In particular, the interrelation and dynamics among quadruple helix actors represent a fundamental aspect for countries such as Rwanda. The problem of fragmented ecosystems, coupled with the need of specific intervention for young people, makes it necessary to work on strategic coordination, something which should distinguish new policy approaches from traditional ones. Tunisia is characterised by the combination of learning from other experiences with creating a specific roadmap of Smart Specialisation. As such, it is becoming a good practice to be shared among African stakeholders. In South Africa, experience shows that perpetuated systems do not contribute to developing local patterns. Promoting interactions in innovation ecosystems will help to discover and address challenges at local level in an inclusive manner, with relevant impact for the creation of jobs and the eradication of poverty.

Table 3 summarises both inspirational – related to the application of the Smart Specialisation concept by respecting its core principles and characteristics – and new elements – the adaptation driven by third countries' and regions' specificities – attributed to Smart Specialisation in Rwanda, Tunisia and South Africa, as well as associated challenges. An approximation of common aspects applying to the whole continent is also integrated in the table.

Table 3. Characterisation of Smart Specialisation in Africa

Smart Specialisation	Rwanda	Tunisia	South Africa
Inspirational elements of Smart Specialisation	<ul style="list-style-type: none"> • Specific tool to support innovation • Mapping of innovation ecosystems • Inclusive dialogue of the quadruple helix 	<ul style="list-style-type: none"> • Inclusive dialogue • Learning from other experiences 	<ul style="list-style-type: none"> • Silo-breaking approach • Policy mix • Social innovation
New elements to Smart Specialisation	<ul style="list-style-type: none"> • Baseline scenarios • Addressing innovation from synergies with development policy • Empowerment of young people 	<ul style="list-style-type: none"> • Adoption of a National Strategy on Smart Specialisation capitalising on exchanges with EU partners • Smart Specialisation process inspiring neighbour countries 	<ul style="list-style-type: none"> • Role of education and skills in science and innovation • Smart Specialisation as a topic to frame cooperation in the region •
Challenges ahead	<ul style="list-style-type: none"> • Newcomer in the use of science and technology to boost the funding of the economy • Absence of industry 	<ul style="list-style-type: none"> • Consolidation of priorities 	<ul style="list-style-type: none"> • Integration of Smart Specialisation with several planning instruments
Common aspects in Africa	<ul style="list-style-type: none"> • Capitalising on policy developments achieved in the framework of national policy for science and technology • Sustainable development as a driver to implement Smart Specialisation-related action 		

Source: Joint Research Centre, Smart Specialisation Platform

4. The way forward: keeping momentum and fostering collective action

Smart Specialisation can be seen as a “robust traveller apt for very long journeys around the world”.

As highlighted by Dominique Foray during the first global workshop on Smart Specialisation, this innovative approach to innovation has the potential to expand further from an international perspective. This could materialise through two main channels, namely the construction of a true Smart Specialisation worldwide community of actors and its enabling role for the implementation of the Sustainable Development Goals.

4.1 Towards a Smart Specialisation worldwide community?

A Smart Specialisation worldwide community would rely on the essentials of Smart Specialisation, while taking advantage of its flexibility. As a place-based approach to innovation, Smart Specialisation builds on the tailoring of research and innovation policies to national, regional and local specificities. Therefore, the malleability and adaptability to diverse realities is inherent in the concept of Smart Specialisation, as shown by the variety of testimonials from the Americas, Asia, Oceania and Africa, during the workshop. This, in turn, increases its scope for application to all territories of the world. Yet, the customisation element of Smart Specialisation needs to go hand in hand with the compliance with the basic pillars of Smart Specialisation, in particular the place-based dimension, the prioritisation element and the Entrepreneurial Discovery Process. These elements would form the common denominator or the DNA of a Smart Specialisation worldwide community.

Cooperation would be at the core of a Smart Specialisation worldwide community. The first global workshop on Smart Specialisation has evidenced the vital nature of cooperation. Cooperation may take place at different levels: (i) cooperation between different territorial actors (governments, academia, businesses and the civil society), (ii) interregional cooperation between zones sharing similarities in terms of specialisation profiles and (iii) international cooperation, to exploit worldwide opportunities and learn from practices in other parts of the world.

There are early signs of creation of a Smart Specialisation worldwide community. First, the international workshop on Smart Specialisation has laid down the foundations for the setting-up of such community. In particular, the interventions of the various speakers from the five continents have emphasised the existence of a common language, where Smart Specialisation is seen as a vector of regional development, local innovation ecosystems and regional identities. Second, ongoing international projects around Smart Specialisation, such as the International Urban Cooperation Programme, draw on bringing together a range of countries and regions, both within and outside the EU, to share experiences, and ultimately build connections and bridges among them. Third, the Smart Specialisation Platform hosted by the Joint Research Centre and run in collaboration with the Directorate-General for Regional and Urban Policy, now counts around 25 members outside the EU, including particularly Australia (Gippsland territory) and Thailand. Participating in the community of stakeholders includes for example being informed about relevant developments in the EU and other areas of the world, participating in strategic events, receiving methodological guidance and using several virtual tools for the deployment of Smart Specialisation.

4.2 Smart Specialisation, a possible tool for the achievement of the Sustainable Development Goals

Smart Specialisation worldwide comes back to the origin. The first methodological and conceptual reflections on Smart Specialisation were provided by scholars of different continents, and then the concept was integrated into policy experimentation in the EU. Such worldwide origin and feedback suggest an alignment with global policies. Accordingly, five aspects catalyse the discussion on how Smart Specialisation would be a possible tool for the achievement of the Sustainable Development Goals (SDGs):

- **Place-based approaches** can help to localise the SDGs by mobilising local governance and policies that are close to citizens.
- **Innovation** for sustainable solutions is an element that can act as a spark in the mobilisation of policy action for the achievement of SDGs at local level.
- The **identification of priorities** for policy intervention constitutes a way to ensure critical mass.
- The **inclusive approach** of Smart Specialisation allows the activation of communities anchored in territories, which generates policy options and leads to greater ownership.

- **Evidence** is possible thanks to solid data as a way to back up policy decisions, activate communities and also guarantee solid monitoring and evaluation processes in order to feed the policy process back again.

Serbia has identified complementarities between Smart Specialisation and the SDGs. In Serbia, the place-based, innovation-led and inclusiveness characteristics of Smart Specialisation on the one hand and the economic, environmental and societal perspectives of the SDGs on the other hand, have attracted interest. Smart Specialisation and the SDGs share common elements but also are projected in different ways: the SDGs call for a coordinated and consensus-based global action, whereas Smart Specialisation contributes to addressing challenges from a bottom-up approach; in the middle, there is enough ground for synergies, cooperation and common tools aiming at mobilising resources and stakeholders, as well as promoting civil society inclusion. As an EU candidate, Serbia has started the preparation of a Smart Specialisation Strategy at national level, following the methodology developed in the EU. Moreover, the Serbian Smart Specialisation Strategy is meant to be a strategic document to support the implementation of the SDGs in the area of industrial policy and development of infrastructure. In the same vein, other countries such as Mexico, Tunisia or Australia also acknowledge synergies between SDGs and Smart Specialisation, and strive to integrate SDG-related elements into their Smart Specialisation efforts.

Science, Technology and Innovation can play a key part in the sustainable development landscape.

For the United Nations' Industrial Development Organisation (UNIDO), place-based innovation is fundamental to foster inclusive and sustainable development. Science, Technology and Innovation, together with industrial development, are powerful drivers of economic diversification, value added, economic growth and sustainable development. Accordingly, Member States of the United Nations are explicitly committed to efforts leading to embed Science, Technology and Innovation in the Sustainable Development Agenda. In this regard, Smart Specialisation, as an enabling methodology, could contribute to the SDGs through the channel of Science, Technology and Innovation Roadmaps. Also, the relation and synergies between Smart Specialisation and other framework initiatives such as Industry 4.0, Sustainable Cities, Gender and Circular Economy, should not be neglected. UNIDO conducts substantial work with clusters and science parks and believes that an articulated framework based on the Smart Specialisation approach would be useful. Key elements of Smart Specialisation are its inclusiveness character and the Entrepreneurial Discovery Process. While these aspects constitute a particular methodological characterisation, they also bring challenges, such as how to engage the civil society, how to validate knowledge contributions, or how to ensure balance across technological and non-technological (social) innovation. Due to the fact that innovation processes vary according to different stages of development, policy measures should stimulate the appropriate type of innovation. The democratisation process of knowledge can be also a key aspect to consider in further developments of Smart Specialisation.

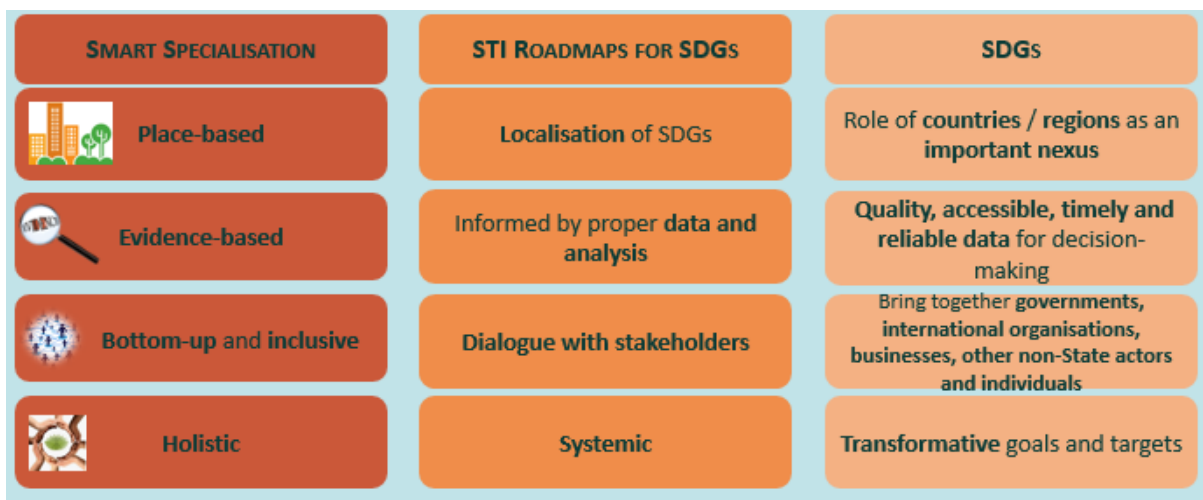
There is potential for Smart Specialisation to serve as an enabling approach for Science, Technology and Innovation Roadmaps, to in turn feed into the SDGs.

The United Nations' Educational, Scientific and Cultural Organisation (UNESCO) is another key global player, which promotes synergies between Science, Technology and Innovation and the achievement of the SDGs. The UNESCO work addresses the fulfilment of the SDGs through Science, Technology and Innovation in an implicit or transversal way. The role of Science, Technology and Innovation is reflected in concrete SDGs, like SDG 9 on inclusive and sustainable industrialisation and the promotion of innovation, or target 9.5 on enhancing scientific research, upgrading the technological capabilities of industrial sectors and encouraging innovation. However, Science, Technology and Innovation represent also a key tool for the achievement of all SDGs: none of the SDGs can be achieved without them. Under this framework, when analysing relations between Smart Specialisation and Science, Technology and Innovation programmes, the following alignments appear relevant:

- **Importance of evidence:** In this respect, the experience of UNESCO, with the 2017 initiatives Science, Technology and Innovation Programme and GO-SPIN platform, helps to identify qualitative and quantitative indicators from consolidated databases of Science, Technology and Innovation in member countries. UNESCO also develops country profiles, which include the basis for the policy implementation of Science, Technology and Innovation and could inform the Smart Specialisation processes.
- **Inclusiveness:** It is necessary to strengthen the gender variable, and to take into account the relevance of Technical Vocational Education and Training. Involving young people, the civil society and indigenous knowledge systems would also be key aspects to align Smart Specialisation with Science, Technology and Innovation.

- **Broad view of innovation:** Grassroots innovation, frugal innovation and social innovation are some examples of innovation diversity. It is necessary to consider all these approaches not as a complement of innovation, but as an integral part of the strategies.
- **Capacity building:** In relation to the United Nations' process, the Technology Bank for Least Developed Countries established in 2017 was the first achieved target (target 17.8) and provides capacity-building mechanisms for Least Developed Countries. The current work of UNESCO is focused on 5 of these countries. This work may strive to incorporate the Smart Specialisation approach.
- **Assessment of technology needs** is a broad exercise to which Smart Specialisation would bring added value. Similarly, methodological advice on the development and implementation of Science, Technology and Innovation Roadmaps includes several approaches and methodologies; hence, Smart Specialisation could be part of them.

Figure 8. Coincidence between Smart Specialisation, Science, Technology and Innovation Roadmaps and the Sustainable Development Goals



Source: Joint Research Centre, Smart Specialisation Platform

Smart Specialisation has been acknowledged at international level as a relevant vehicle for the implementation of the SDGs. For the 2030 Agenda of the United Nations for Sustainable Development, the local action is a fundamental step for a rapid achievement of the SDGs (Global Taskforce of Local and Regional Governments, 2018). Likewise, local and regional action plays a vital role in the Smart Specialisation approach, as it facilitates inclusive dialogue leading to discover innovation potential and competitive advantages. The Joint Research Centre has identified a fruitful link between Smart Specialisation and the achievement of the SDGs through two main "entry points": (i) the formulation of Science, Technology and Innovation Roadmaps for development, on one side, and (ii) the inclusiveness of policy-making for innovation-driven development strategies and priorities, on the other. Particularly, the added value of Smart Specialisation, particularly as a possible illustration of Science, Technology and Innovation Roadmaps for the SDGs, has been recognised by international organisations, notably under the umbrella of the United Nations, and several countries.

5. Conclusions

Since the beginnings of Smart Specialisation in the EU, less than 10 years ago, significant steps have been made. Over 120 Smart Specialisation Strategies were developed by EU regions and Member States in only six years. 30 thematic partnerships are working in the Smart Specialisation Thematic Platforms on energy, agri-food and industrial modernisation, covering more than 160 regions and Member States.

While initially conceived in the EU context for cohesion policy, Smart Specialisation has increasingly become a source of inspiration for countries all over the world. Smart Specialisation pockets or intentions can be found, at various stages of development, on the five continents. In addition, there has been an always increasing number of countries and regions outside the EU who become members of the Smart Specialisation Platform.

There is further scope to anchor Smart Specialisation as a distinctive EU touch for territorial development policies led by innovation across the world. On 12 September 2018, in his annual State of the Union speech (Juncker, 2018), the President of the Commission Jean-Claude Juncker highlighted that it is time for the EU to be a more active global player on the world scene. Undoubtedly, Smart Specialisation has strong potential in this endeavour. As an innovative, place-based approach to innovation, Smart Specialisation comes from the territories, and for the territories. This makes it fully adaptable to any national or regional context, and able to foster economic transformation in all parts of the world.

Smart Specialisation can play a key role in the implementation of the Sustainable Development Goals. The localisation of the Sustainable Development Goals can benefit from the Smart Specialisation approach, as it facilitates an inclusive dialogue leading to discover innovation potential and competitive advantages. The added value of Smart Specialisation, particularly as a possible illustration of Science, Technology and Innovation Roadmaps for the Sustainable Development Goals, has been recognised by international organisations, notably under the umbrella of the United Nations, and several countries.

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List of abbreviations and definitions

CECYTCOL	State Council of Science and Technology of Colima (Mexico)
CELAC	Community of Latin American and Caribbean States
CONAGO	National Conference of Governors of Mexico (Mexico)
DG DEVCO	Directorate-General for International Cooperation and Development
DG REGIO	Directorate-General for Regional and Urban Policy
DG RTD	Directorate-General for Research and Innovation
EEAS	European External Action Service
ERDF	European Regional Development Fund
EU	European Union
FAO	United Nations Food and Agriculture Organisation
FPI	Service for Foreign Policy Instruments
IBICT	Brazilian Institute of Information in Science and Technology (Brazil)
JRC	Joint Research Centre
NIA	National Innovation Agency (Thailand)
R&D	Research and Development
RIS3	Regional Innovation Strategies for Smart Specialisation
RMIT	Royal Melbourne Institute of Technology (Australia)
SDGs	Sustainable Development Goals
S3	Use for both 'Smart Specialisation' and 'Smart Specialisation Strategies'
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNIDO	United Nations Industrial Development Organisation

List of figures

Figure 1. Smart Specialisation concept.....7

Figure 2. Smart Specialisation methodology.....8

Figure 3. Smart Specialisation in the EU seen from the policy angle.....8

Figure 4. Map of place-based innovation policies in the world.....9

Figure 5. Ontario's five largest concentrations (specialisations)..... 12

Figure 6. Synergies between the Smart Specialisation approach and policy intervention by the National Innovation Agency (NIA) of Thailand..... 14

Figure 7. Tunisian pilot areas for policy intervention addressing Smart Specialisation..... 16

Figure 8. Coincidence between Smart Specialisation, Science, Technology and Innovation Roadmaps and the Sustainable Development Goals..... 20

List of tables

Table 1. Characterisation of Smart Specialisation in the Americas 13
Table 2. Characterisation of Smart Specialisation in Asia and Oceania 15
Table 3. Characterisation of Smart Specialisation in Africa 17

Annexes

Annex 1. Agenda of the workshop "Smart Specialisation: From the EU to the world" – 25 September 2018 – Seville – Spain

Time	Session and speakers
8:30-9:00	Welcome coffee and registration
9:00-9:15	<p>Opening and Welcoming</p> <p>Luis DELGADO SANCHO, Acting Director of the Growth and Innovation Directorate, Joint Research Centre (JRC), European Commission</p>
9:15-10:15	<p>Keynote speeches: Smart Specialisation: a policy approach "made in EU" gaining worldwide interest</p> <p>Moderator: Luis DELGADO SANCHO, Acting Director of the Growth and Innovation Directorate, JRC, European Commission</p> <ul style="list-style-type: none"> ▪ Dominique FORAY, Dean of the School of Management, Swiss Federal Institute of Technology of Lausanne, Switzerland ▪ José Ignacio PERALTA SÁNCHEZ, Constitutional Governor of the Free and Sovereign State of Colima, Mexico, and Coordinator of the Commission of Science and Technology of the National Conference of Governors of Mexico, Mexico ▪ Adam TYSON, Head of the North America, Latin America and Caribbean Unit, Directorate-General for Research and Innovation (DG RTD), European Commission <p>Objective: In recent years and building on the positive experiences of Smart Specialisation in the EU, Smart Specialisation has been attracting increasing interest from outside the EU. The keynote speeches will set the scene of the workshop from the research and political angles and will provide insights on current tendencies, opportunities and perspectives of the implementation of Smart Specialisation in the EU and other parts of the world.</p>
10:15-11:30	<p>Roundtable 1: Smart Specialisation in the Americas, initiatives towards decentralised innovation policies</p> <p>Moderator: Charles WESSNER, Professor of Global Innovation Policy at Georgetown University, United States of America</p> <ul style="list-style-type: none"> ▪ Gloria MARMOLEJO JARAMILLO, Director-General of the State Council of Science and Technology of Colima, Mexico (CECYTCOL) and Technical Secretariat of the Commission of Science and Technology of the National Conference of Governors of Mexico (CONAGO), Mexico ▪ Paulo EGLER, Responsible for International Cooperation, Brazilian Institute of Information in Science and Technology, Brazil ▪ Greg SPENCER, University College Dublin, Ireland ▪ Adam TYSON, Head of the North America, Latin America and Caribbean Unit, DG RTD, European Commission <p>Rapporteur: Javier GÓMEZ PRIETO, Territorial Development Unit, JRC, European Commission</p> <p>Objective: This first roundtable will bring together key practitioners of Smart Specialisation on the American continent at academic, political and international organisation level. They will showcase the most important developments derived from the implementation or adaptation of Smart Specialisation in North and South America.</p>
11:30-12:00	Coffee break

12:00-13:00	Roundtable 2: Smart Specialisation in Asia and Oceania, an inspiration for place-based innovation
	<p>Moderator: Inger MIDTKANDAL, Science Counsellor at the Commercial Section of the Royal Norwegian Embassy, India</p> <ul style="list-style-type: none"> ▪ Bruce WILSON, Director of the European Union Centre at the Royal Melbourne Institute of Technology (RMIT), Melbourne, Australia ▪ Theresa MATHAWAPHAN, Deputy Executive Director / Chief Strategy, National Innovation Agency, Thailand <p>Rapporteur: Albane DEMBLANS, Territorial Development Unit, JRC, European Commission</p> <p>Objective: This second roundtable will be dedicated to Smart Specialisation developments in Asia and Oceania. Building on the experiences of Australia, where the Hunter Valley region was the first region to develop a Smart Specialisation Strategy in 2015, of India and of Thailand, the objective will be to understand to what extent Smart Specialisation can inspire further regions in these continents.</p>
13:00-14:00	Lunch break and family picture
14:00-15:00	Roundtable 3: Smart Specialisation in sub-Saharan Africa, a driver for development?
	<p>Moderator: Fernando HERVÁS SORIANO, Deputy Head of the Territorial Development Unit, JRC, European Commission</p> <ul style="list-style-type: none"> ▪ Mafini DOSSO, Territorial Development Unit, JRC, European Commission ▪ Manasse MBONYE, Executive Secretary, National Council for Science and Technology, Rwanda ▪ Amani CHARRAD, National Agency for Scientific Research Promotion, Tunisia ▪ Vinny PILLAY, South African Science Counsellor, Embassy of the Republic of South Africa to the Kingdom of Belgium, the Grand Duchy of Luxembourg and the Mission to the European Union, Brussels <p>Rapporteur: Ylenia CIMMARRUSTI, Work Programme Unit, JRC, European Commission</p> <p>Objective: This third roundtable on Africa will bring together the institutional and country-specific perspective to analyse how Smart Specialisation could participate in the growth and development agenda of sub-Saharan African countries.</p>
15:00-15:30	Coffee break
15:30-16:45	Smart Specialisation in EU international relations: lessons and next steps
	<p>Setting the scene: concise feedback from roundtable sessions by rapporteurs</p> <p>Moderator: Emanuela BELLAN, Head of the Interinstitutional, Institutional Relations and Outreach Unit, JRC, European Commission</p> <ul style="list-style-type: none"> ▪ Manfredo FANTI, Head of the Division Americas Department/Regional Affairs, European External Action Service (EEAS) ▪ Robert BURMANJER, Head of the Knowledge, Statistics and Data Hub Unit, Directorate-General for International Cooperation and Development (DG DEVCO), European Commission ▪ Nona DEPREZ, Head of the Partnership Instrument Unit, Service for Foreign Policy Instruments (FPI), European Commission ▪ Marek PRZEOR, Directorate-General for Regional and Urban Policy (DG REGIO), European Commission <p>Objective: This session will bring together key actors of the European Commission and EU services working on innovation policies and international relations. The ambition is to draw lessons from the three roundtables on the Americas, Asia, Oceania and Africa, as well as from the deployment of Smart Specialisation in Europe and to outline prospects for Smart Specialisation worldwide.</p>

16:45-17:45 Smart Specialisation, a possible tool for the achievement of the Sustainable Development Goals?

Moderator: Alessandro RAINOLDI, Head of the Territorial Development Unit, JRC, European Commission

- Viktor NEDOVIĆ, State Secretary of the Ministry of Education, Science and Technological Development, Republic of Serbia
- Fernando SANTIAGO RODRIGUEZ, Directorate of External Relations and Policy Research, UNIDO
- Ernesto FERNANDEZ POLCUCH, Chief of Section, Science Policy and Partnerships, UNESCO

Objective: This concluding session will present a possible work strand whereby Smart Specialisation could contribute to the 2030 Agenda of the United Nations and to the implementation of the Sustainable Development Goals at the local level.

17:45-18:00 Closing session and end of the meeting

Charlina VITCHEVA, Deputy Director-General, JRC, European Commission

Annex 2. Testimonials from experts gathered at the workshop "Smart Specialisation: From the EU to the world" – 25 September 2018 – Seville – Spain

Name	Testimonial
<p>Dominique FORAY, Dean of the School of Management, Swiss Federal Institute of Technology of Lausanne, Switzerland</p>	<p>Question: What is the main take-away of this first global workshop on Smart Specialisation?</p> <p>Smart Specialisation is a "made in EU" concept, on the basis of which the Commission proceeded to massive implementation and fast translation into policy. The Smart Specialisation Platform has been created, there have been bottom-up, decentralised initiatives by regions to share experiences. We now discuss the future of Smart Specialisation in the Commission, in the Parliament and in the Council.</p> <p>This is made in the EU but it is also a combination of ideas and knowledge, which were produced out of Europe; this is the example of self-discovery, which was taken from works by scholars working in Latin America and Africa.</p> <p>Question: Why is it important to see Smart Specialisation processes in non-EU countries?</p> <p>It is important because first, Smart Specialisation is a good concept, which has been successfully implemented in many regions and provided a collection of tools for these regions to transform themselves and increase productivity, so other regions in the world have to try this approach. Then, for us as Europeans, we can gain a lot of insights and results from these experiences undertaken in the rest of the world.</p>
<p>José Ignacio PERALTA SÁNCHEZ, Constitutional Governor of the State of Colima, Mexico, and Coordinator of the Commission of Science and Technology of the National Conference of Governors of Mexico, Mexico</p>	<p>Question: What is the main take-away of this first global workshop on Smart Specialisation?</p> <p>The main message is to share the experience we have in Mexico, to learn from other experiences in the world like Australia and Brazil, and to understand first that technology and innovation are very important for economic development, and second that Smart Specialisation is a very efficient strategy to achieve the policy goals we have in Mexico.</p> <p>Question: What has Mexico learnt from the European experience and how does it contribute to economic growth in Mexican regions?</p> <p>For Mexico, it is very important to implement the innovation agendas for every State. These agendas were based on the European Union methodology on Smart Specialisation. Now, we have to work very hard in three directions: first, towards the appropriation of agendas by local authorities; second, to find the way to finance projects from public or private sources, and finally to evaluate these agendas on a periodical basis to make sure that implementation is right on track.</p>
<p>Bruce WILSON, Director of the European Union Centre at the Royal Melbourne Institute of Technology (RMIT), Melbourne, Australia</p>	<p>Question: What is the main take away of this first global workshop on Smart Specialisation?</p> <p>The experience of the European Union with Smart Specialisation has clearly got worldwide implications, it does not matter which part of the world people are in, they have something to learn about what the EU is doing with this approach to build in place-based innovation systems.</p> <p>Question: How has the European experience of Smart Specialisation inspired the Australian experience and also the setting-up of a Centre of Excellence on Smart Specialisation in your university in Australia?</p> <p>The first point to make is that the experience that the EU has had in trying to see all regions become successful is crucial inspiration. The recognition that every region has something to offer to its own nation, and indeed to the world is a very inspiring message. In Australia, we have referred to a patchwork of regions, some much more successful than others. This is one way we have tried to think about how all regions in Australia can understand where their points of</p>

competitive advantages are, and how they can build those competitive advantages to engage more successfully in global markets.

Viktor NEDOVIĆ, State Secretary of the Ministry of Education, Science and Technological Development, Republic of Serbia

Question: What is the main take-away of this first global workshop on Smart Specialisation?

For somebody who is leading the Smart Specialisation process in my country, Serbia, this event showed us how the Smart Specialisation process can become a global one. It is also interesting to see how much such Smart Specialisation process can be not only implemented by European Member States and candidate countries, but almost all countries worldwide. It is also relevant to see how different countries approach the process and try to learn and improve skills, and also how they connect the research, science and technology and business sectors inspired by a methodology developed by the Joint Research Centre of the European Commission.

Question: What can Serbia learn from EU Member States' experiences on Smart Specialisation?

Serbia was the first non-Member State who approached the European Commission with a request of support to work on Smart Specialisation. After that, Moldova, Ukraine and Montenegro and some other countries came. It is for sure a learning process, not only for us but also for the Commission, including the Joint Research Centre and other Member States, by learning from good and bad experiences in other countries and regions. We are following the original methodology of Smart Specialisation and appreciate how this methodology allows discovering the particular conditions in regions and countries.

Fernando SANTIAGO RODRIGUEZ, Directorate of External Relations and Policy Research, UNIDO

Question: What is the main take-away of this first global workshop on Smart Specialisation?

One is that Europe created a conceptual framework to promote regional development, and now it is spreading enough to other countries and regions, and it is trying to share lessons. Europe is open to learn and trying to see how this concept can be used and applicable in different areas. So the main take-away is knowledge sharing and mutual learning.

The second is the ambition of creating space for this concept to give a guideline to understand how Science, Technology and Innovation can be connected to other areas of economy (e.g. industrialisation, social development).

Question: How would Smart Specialisation Strategies and related policy activity be useful for the achievement of the Sustainable Development Goals?

From the perspective of UNIDO, we are interested in fostering inclusive sustainable industrial development. The emphasis is on economic development.

The challenge of people working in this area is to be aware of how to connect this economic development to ideas of inclusiveness and sustainability. This is a discourse that needs to be articulated for all, also at the United Nations' level. These are ideas and debates that we are not really able to address in an articulated way. This is a challenge, and an opportunity to connect to broader debates at the development level.

Charlina VITCHEVA, Deputy Director - General, JRC, European Commission

Question: What is the main take-away of this first global workshop on Smart Specialisation?

It was fascinating to realise what source of inspiration this concept of Smart Specialisation has become, and that it has created a real global community that is engaged, committed and convinced about the benefits of Smart Specialisation.

Also, it was very interesting to see that Smart Specialisation is an enabling method for the international agenda. The fusion between Smart Specialisation and the implementation and achievement of the Sustainable Development Goals is an interesting discussion. The beauty of the Smart Specialisation method is that it is really place-based, it triggers the enthusiasm of the

local community and it is a real bottom-up brainstorming for local development and in the end, it comes from the regions and goes back to the regions. It is a beautiful concept, which started from ex-ante conditionality in the regional policy, and gradually grew to other EU policies and now we have a real global community united around this concept.

Question: How can the Joint Research Centre be a strategic partner to catalyse the EU experience on Smart Specialisation and place-based innovation policies?

From the very start, JRC has been a strategic partner. JRC and DG REGIO started the implementation of Smart Specialisation. JRC is instrumental because it is the evidence base of the EU initiatives. The Smart Specialisation Platform is the instrument and the aiding hand of the Smart Specialisation concept; by default, JRC is the one to be the partner of anyone interested in the Smart Specialisation concept.

Annex 3. List of participating organisations

- BAK Economics
- Brazilian Institute of Information in Science and Technology (IBICT)
- Centre for Social Innovation
- Chamber of Commerce of Bogota
- Climate Knowledge and Innovation Community
- Embassy of the Republic of South Africa to the Kingdom of Belgium, the Grand Duchy of Luxembourg and the Mission to the European Union, Brussels
- European Commission, Directorate-General for International Cooperation and Development (DG DEVCO)
- European Commission, Directorate-General for Regional and Urban Policy (DG REGIO)
- European Commission, Directorate-General for Research and Innovation (DG RTD)
- European Commission, Service for Foreign Policy Instruments (FPI)
- European Commission, Joint Research Centre (JRC)
- European External Action Service (EEAS)
- Fraunhofer Institute
- Grupo TASO
- Infyde consultancy
- Innovation and Development Agency of Andalusia
- Italian Agency for Territorial Cohesion
- Mexican National Conference of Governors (CONAGO)
- Ministry of Education, Science and Technological Development, Republic of Serbia
- National Agency for Scientific Research Promotion, Tunisia
- National Council for Science and Technology, Rwanda
- Nordland Research Institute
- Regional Government Azores
- Regional Government Catalonia
- Regional Government of Colima
- Regional Studies Association
- Royal Melbourne Institute of Technology (RMIT)
- Royal Norwegian Embassy in New Delhi
- Science Policy Research Unit, University of Sussex
- Swiss Federal Institute of Technology, Lausanne
- United Nations Educational, Scientific and Cultural Organisation (UNESCO)
- United Nations Food and Agriculture Organisation (FAO)
- United Nations Industrial Development Organisation (UNIDO)
- University College Dublin, Ireland
- University of Aveiro
- University of Florence
- University of Georgetown
- University of Macerata
- University of Moncton
- University of Reggio Calabria

- University of Sarajevo
- University of Sussex
- University of Trento
- University of Vienna

Annex 4. Country profiles

SMART SPECIALISATION WORLDWIDE
ARGENTINE REPUBLIC

Smart Specialisation for the **development of the software sector** in Buenos Aires, Cordoba, La Plata and Rosario



#S3Worldwide
#SmartSpecialisation



[Factsheet on Argentina](#)

SMART SPECIALISATION WORLDWIDE
COMMONWEALTH OF AUSTRALIA

Hunter Valley region: the **first** to develop a Smart Specialisation strategy in **2015**

Economic development agenda supported by **innovation** and **entrepreneurship**



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[Factsheet on Australia](#)

SMART SPECIALISATION WORLDWIDE
FEDERATIVE REPUBLIC OF BRAZIL

A multidisciplinary laboratory for testing the customisation of Smart Specialisation needs in **textile** and **automotive sectors**



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#SmartSpecialisation



[Factsheet on Brazil](#)

SMART SPECIALISATION WORLDWIDE
REPUBLIC OF CHILE

25 strategic specialisation programmes have been implemented through specific funding enabled by the **Innovation Fund for Competitiveness (FIC)**



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#SmartSpecialisation



[Factsheet on Chile](#)

SMART SPECIALISATION WORLDWIDE
PEOPLE'S REPUBLIC OF CHINA

Smart specialisation as **strategic topic of collaboration with EU**



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#SmartSpecialisation



[Factsheet on China](#)

SMART SPECIALISATION WORLDWIDE
REPUBLIC OF COLOMBIA

2 millions of USD in ICT industry through associative initiatives in **7 Colombian regions**



#S3Worldwide
#SmartSpecialisation



[Factsheet on Colombia](#)

SMART SPECIALISATION WORLDWIDE
UNITED MEXICAN STATES

> 3 300 stakeholders
1 650 public and private institutions engaged
495 innovative projects



#S3Worldwide
#SmartSpecialisation



[Factsheet on Mexico](#)

SMART SPECIALISATION WORLDWIDE
REPUBLIC OF PERU

Smart Specialisation: a way to explore decentralisation of innovation policies



#S3Worldwide
#SmartSpecialisation



[Factsheet on Peru](#)

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