



## Fifth Interim Report: Manuals of recommendation and pilot projects

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EU-CELAC INNOV-AL Platform: Promotion of  
decentralised innovation policies in Brazil



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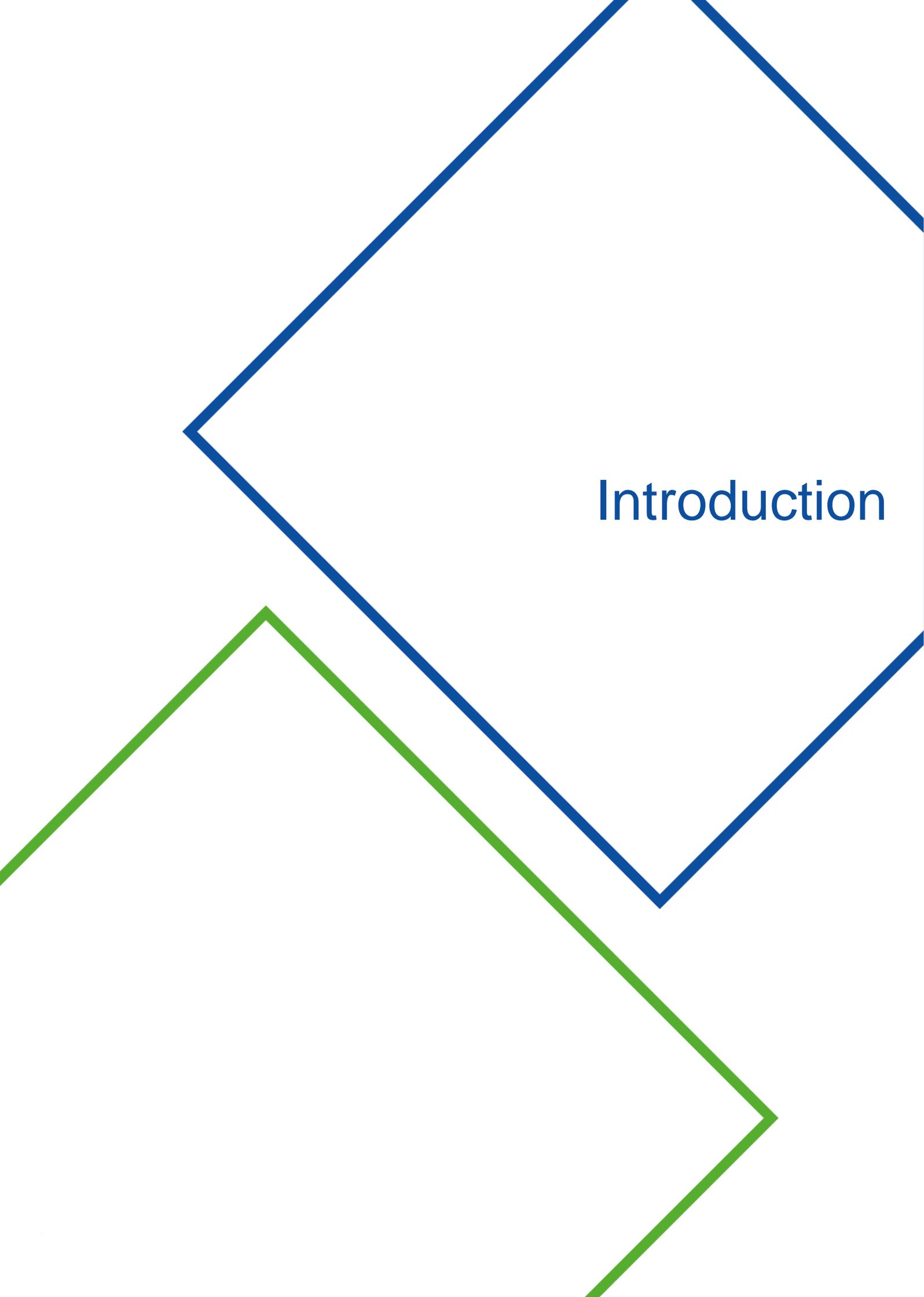
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# Introduction

## 1. Introduction

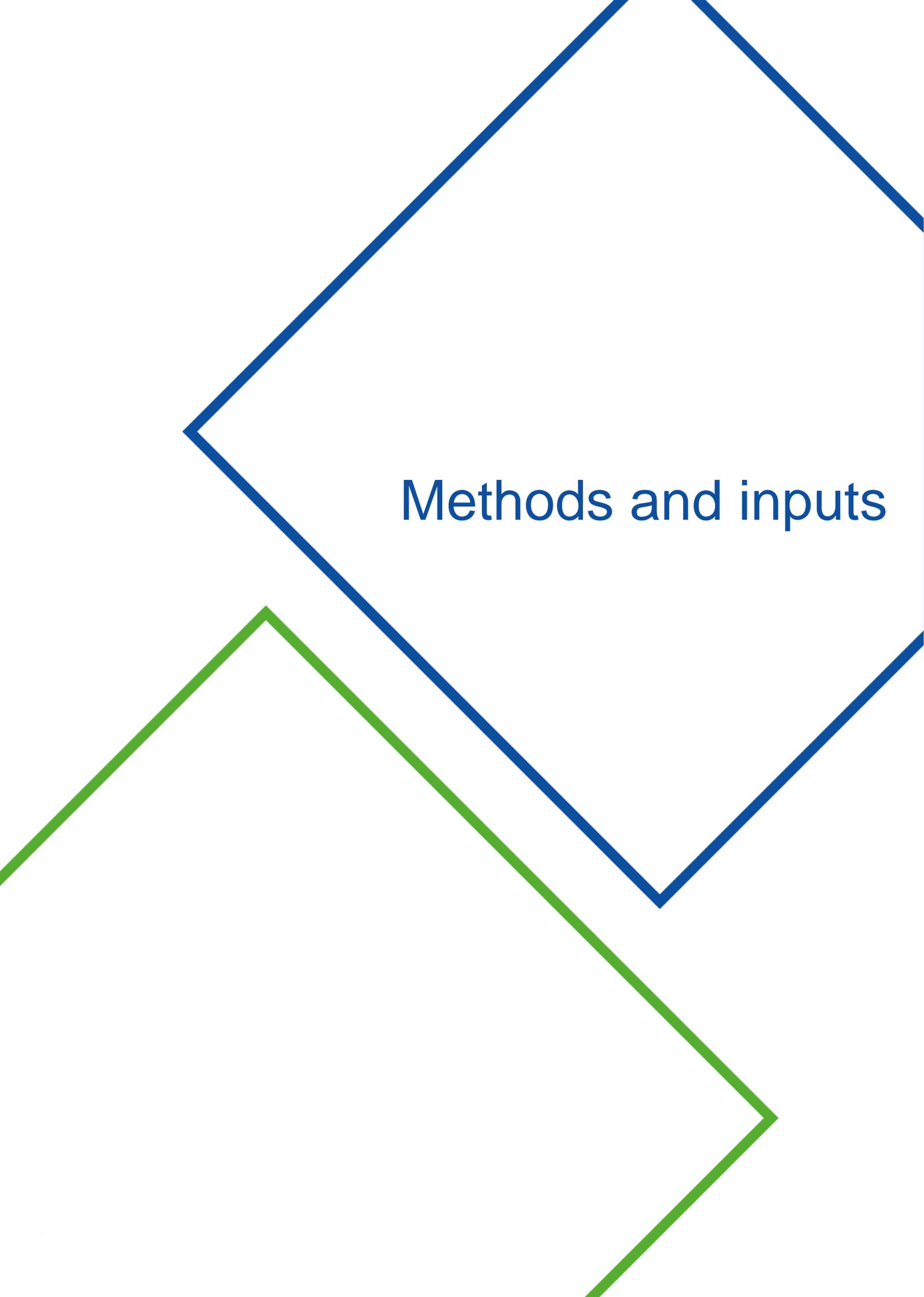
The objective of the **Mandatory Deliverable 7: Fifth Interim Report Manuals of recommendations and pilot projects** is to demonstrate the work developed at **Task 6 – Policy Recommendations and Pilot Development**.

The purpose of this document is to present the manual of recommendations and pilot projects for each of the participant states (Pará, Paraná and Pernambuco) in terms of closing the gaps and weakness identified on the SWOT analysis and by each participant after the study visit to Europe. As per the pilot projects, the project had at one of its main objectives to propose, in the end, 6 pilot project ideas, 2 per Brazilian state. The aim of the pilot projects was to suggest common interests and potential cooperation activities that could be developed.

The chapter “Method and Inputs” includes the different stages that guided the entire project. Following, three recommendation manuals, one for each of the participating Brazilian states, are presented in chapter 3, in order to help the regional innovation policies. Also included in this chapter are the pilot experiences defined previously in mediated consultations between each pair one of the collaboration pairs (Brazilian state and European region). There are six pilot experiences in total, two for each state, in key technology fields, activities or sectors. The pilot projects are practically oriented and suitable for implementation at the end of the contract. They will focus on the knowledge transfer to the local companies, learning from European good practices presented by the pairing regions, in the specific challenges identified by the Brazilian states. Finally, follows the definition of the action plan and the conclusions.

The Fifth Interim Report is organised as follows:

- Method and Inputs;
- Manuals of recommendations;
- Pilot projects;
- Action path;
- Conclusions.

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Methods and inputs

## 2. Method and inputs

The “EU-CELAC INNOV-AL Platform: Promotion of decentralised innovation policies in Brazil” project has the main goal of promoting the cooperation between European and Brazilian regions, supporting the dissemination and learning of experiences and good practices of European regional policy. The cooperation between the authorities of three Brazilian states (Pará, Paraná, Pernambuco) and counterpart regions in the European Union (EU) is going to contribute for the definition and implementation of decentralized innovation and smart specialisation policies at the regional level.

An analysis of the three participant Brazilian states was carried out, in order to determine the existing Strengths, Weaknesses, Opportunities and Threats (SWOT). In order to achieve that, a mission was conducted to the three states and federal capital of Brazil. From the mission it was possible to collect data about the existing governance systems, which were analysed throughout a SWOT matrix, allowing the identification of the current weakness and needs in each of the states. From this point, it was possible to propose a Capacity Building Plan that fosters international cooperation and strengthens the regional innovation system of each state.

The elaboration of the SWOT matrix and the Capacity Building Assessment was based on the data collection techniques conducted through individual and group interviews, both face-to-face and remotely via Skype. This was complemented with a literature review, which allowed to gather more information related to the innovation system in Brazil.

The interviews focused on the actual and expected roles of key stakeholders of the regional innovation system and in the context of smart specialization. The purpose of these interactions was to analyse the existing governance systems. In addition, the current needs in each of the states regarding the current status of their innovation policies and support mechanisms were addressed. In March 2018, a total of 176 agents were interviewed in all three states by the project team, composed by members from SPI and VTT. The encounters took place in Altamira and Belém (Pará), Petrolina and Recife (Pernambuco), Foz do Iguaçu and Curitiba (Paraná), and in the national capital Brasília.

After the step of information gathering, followed the choice of European regions interested in promoting their best practices and develop international cooperation project with Brazilian states

regarding smart specialisation strategies (S3). Therefore, a call of expression of interest was published to operationalize the process, inform potential stakeholders, and to initiate the process of selecting three EU regions to cooperate with Brazilian states of Pará, Paraná and Pernambuco, in the exchange of experiences and transfer of good practices. The process also allowed the European regions some benefits like take part in an international knowledge transfer process regarding regional policy and smart specialisation, participate as speakers in a closing conference of the project in Brazil (2 days duration) and contribute with contents to the online platform.

Following the choice of the European regions, were carried out activities dedicated to the interaction between the various actors involved in the project: face-to-face sessions, study visit and workshops.

The face-to-face sessions served to create a common learning base, through the training of several regional and national experts related to planning and management of regional/decentralised projects (both public and private sector). The sessions focused on the principles of European regional policy, as on the knowledge of case studies and examples of good practices, and its application in the field of regional innovation. The three face-to-face sessions were delivered in the three Brazilian states, in the capital city of each state: Belém (Pará), Curitiba (Paraná), and Recife (Pernambuco).

As for the study visit, it was organised in four EU regions with the participation of 12 Brazilians. With a total length of 14 full-days, the mission allowed the knowledge of experiences of innovation policies, innovation and multilevel governance, instruments used, and the smart specialisation approaches in the selected European regions. This was achieved through meetings with several agents: national, local and regional authorities, knowledge transfer agencies, development agencies, representatives of the private sector, clusters, technological centres, technological and scientific parks, among other relevant actors of the innovation system in each selected European region.

The following stage of the project was the realization of face-to-face workshops, delivered in the capital city of each the three Brazilian states: Belém (Pará), Curitiba (Paraná) and Recife (Pernambuco). These events included bilateral calls between the corresponding Brazilian and European regions. In these workshops, the results of the visit to Europe were debated through the enumeration of the good practices identified.

The sharing of experiences in the workshops allowed the identification of potential initiatives to be applied to each state's reality. These events also aimed to create a common baseline of European Regional Innovation Policies and the Research and Innovation Smart Specialisation Strategies (RIS3). Thus, there were discussions of practical cases, alongside with parallel group discussions on potential ideas of collaboration projects that could be developed with the partner regions in Europe.

The EU-CELAC INNOV-AL Platform: Promotion of decentralised innovation policies in Brazil project ended with the realization of the final conference, in Recife/Brazil on 19-21 March 2019, with the purpose to disseminate the results of the project. The event was attended by representatives from both European and Brazilian participating regions, as well from the Ministry of Regional Development (MDR) and European Commission (EC). Other participants were experts in the areas of study, and representatives of public services, private entities, civil society and financing entities. The following figure shows the different stages of the EU-CELAC INNOV-AL project.

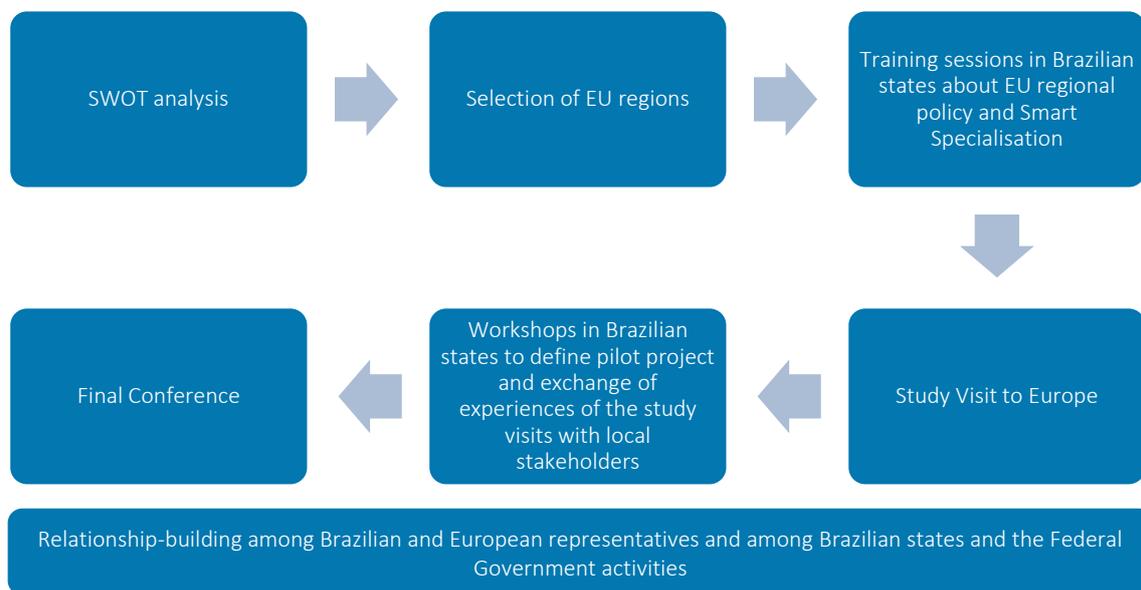


Figure 1: EU-CELAC INNOV-AL methodology

## 2.1. Elaboration of pilot projects, recommendations and action path

The three manuals of recommendations for the three Brazilian states were defined based on two main input sources: a consultation with the participants of the visits to pairing regions in Europe after the study visit and a focus group discussion held during the final conference of the project in Recife.

After the visit to Europe the participants made an evaluation in which they informed about their learnings and compared the achievements of the European regions with the reality of the Brazilian regions and their respective positions at the state level representation. They also indicated potential challenges for the implementation of RIS3 in their states and recommended solutions. Such information from the participants were transformed in policy recommendations, also based on the experience and observation of the project team leading the whole project implementation, especially considering the results of the SWOT analysis. The evaluation was structured in categories presented in Table 1, which shows in first column the categories of analysis and in the second column the questions that were to be responded for each category.

Table 1. Lessons learned and recommendations from visit to EU pairing regions

Categories of analysis	Guiding questions
Governance	<ul style="list-style-type: none"> <li>▪ Lessons learned with EU</li> <li>▪ Comparison with your region (PA, PR, PE)</li> </ul>
RIS actors and their roles	<ul style="list-style-type: none"> <li>▪ How could your region implement solutions similar to the ones witnessed?</li> </ul>
Interaction among RIS actors	<ul style="list-style-type: none"> <li>▪ What obstacles are foreseen for the implementation of the cooperation?</li> </ul>
Regional development policy	<ul style="list-style-type: none"> <li>▪ How could the challenges be overcome with a view of promoting the cooperation?</li> </ul>
Funding for regional development	<ul style="list-style-type: none"> <li>▪ Which lessons learnt from the EU funding framework could be drafted comparing to the Brazilian funding schemes?</li> </ul>

Categories of analysis	Guiding questions
Sectoral development	<ul style="list-style-type: none"> <li>▪ Specific recommendations and insights taken from the understanding of the pairing sectors in the EU regions</li> </ul>

As per the pilot projects, they were defined following the study visit to the European pairing regions and from the several discussions undertaken during bilateral conference calls organised with the participant Brazilian states and European regions plus the workshops held in each Brazilian state.

Based on the practices learned in Europe, the Brazilian participants proposed areas in which they wished to deepen collaboration with their European pairs and the other way around was also done. Those were discussed and further refined in the bilateral conference calls.

The action paths for the collaboration and implementation of the pilots were defined together with stakeholders from the Brazilian states and corresponding EU regions, individually per collaboration pair, in a focus group held during the final conference of the project. In order to give a strategic focus to the cooperation and ideate on what it could reach in the future, the participants were asked to develop a joint vision statement expressing what they aimed for the cooperation to be in the year 2030. Following the vision statement, they were asked to identify future actions to be taken by different actors of the local innovation system of the Brazilian region. Actions were identified for short-, mid- and long-term. Workshop participants identified major goals to be addressed in order to reach the desired state of the vision. The goals included the pilot projects that are being recommended, which are mostly focused by short- and mid-term actions, and the long-term actions that are used as subsidies for the recommendations that aim to address the sustainability of the cooperation. Having in mind the strengthening of the collaboration also among the different stakeholders of the regions, we also mapped the actors that should be involved with the implementation of the actions at all, local, regional/state and federal, levels.

The action path template shown in Figure 2 was used to support the discussions by means of visualizing the main components of the action path and the expected results the participants aimed to reach.

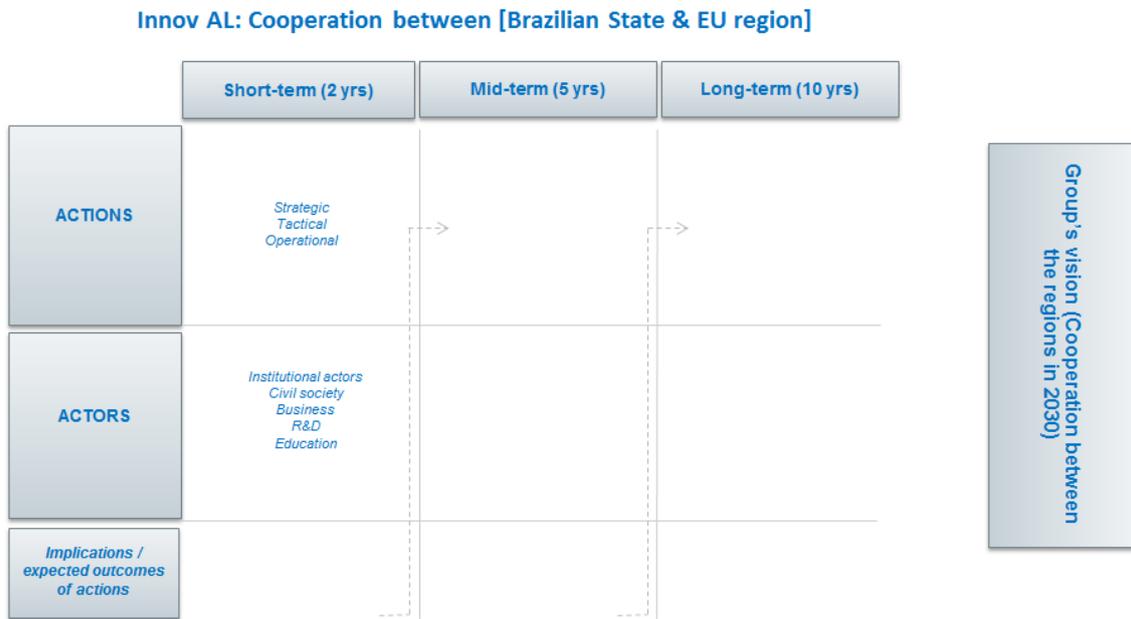
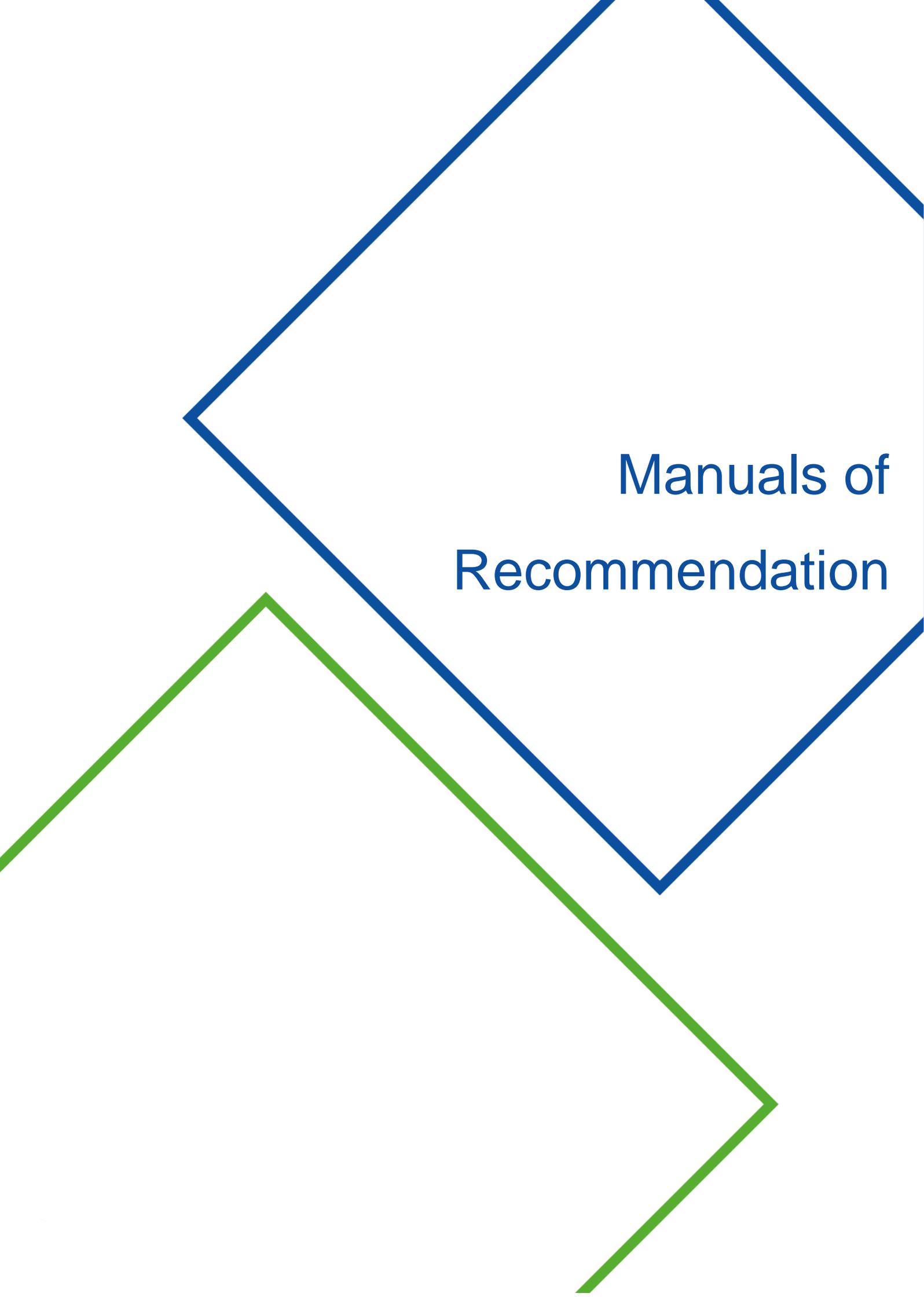


Figure 2. Action path template

The results of the consultation with stakeholders that yield the recommendations, pilot projects and the action path for the implementation of different actions that aim to lead to a sustainable collaboration among Brazilian and European regions are presented in the following chapters.

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# Manuals of Recommendation

### 3. Manuals of recommendation

A set of policy recommendations were proposed for each Brazilian state in order to strengthen their regional innovation systems and institutional capacity to invest on innovation and economic growth of key-sectors in each state and to create a stable and consistent institutional framework to support such growth. These recommendations were made following the consultations with the representatives of Brazilian states and by the lessons learnt through the project implementation and are presented by state.

#### 3.1. Pará

According to Scobey, the main challenges faced by the cocoa sector in Brazil are: insufficient supply for domestic demand, which means that Brazil imports about 70.000 tonnes/year of cocoa; low productivity levels among small producers, which ranges from 200 to 500 kilos/hectare; low level of organization among producers; low yield of the farms; and threats by plagues and diseases<sup>1</sup>. Although, the Transamazonian region shows some better indicators regarding productivity compared to the other big production pole of Ilheus in the Bahia State, it suffers from most of the problems reported above. This is the context in which cooperation with the North-East Romania Development Agency is established and aims to improve.

#### Governance

In this regard, the main recommendation for Pará is the **creation of a regional agency to deal specifically with matters related to development of cocoa value chain in the State**. This agency would work together with the organizations involved in the recently established Management Committee of the Transamazonian Cocoa Route<sup>2</sup>, which is one of the projects of the program National Integration Routes of the recent-established Ministry of Regional Development (MDR, Ministério do Desenvolvimento Regional in Portuguese). Inspiration for the model of the agency to be implemented has been the North-East Romania Development Agency (NERDA). As the

<sup>1</sup> <https://www.worldcocoaoundation.org/press-release/collaborative-initiative-announced-to-boost-sustainability-in-brazils-cocoa-sector/>

<sup>2</sup> According to document “Declaration of Formation of the Management Committee of the Transamazonian Pole - Cocoa Route, issued in Altamira on 14 March 2019, shared by the coordinator of the Integration Routes at the Ministry of Regional Development, which was shared by the Program coordinator.

Cocoa Route has among its plans to hire an organization to implement the local cocoa productive arrangement (APL, Arranjo Produtivo Local in Portuguese) of the cocoa sector<sup>3</sup>, the agency to be established could fit that role.

The participants identified important obstacles for the implementation of the agency, and altogether for the development of the region, as the lack of political involvement from the state government, the lack or uncertainty about the financial support necessary to carry out projects, and the substantial amount of effort needed to articulate the actors involved in Cocoa Forum. Efforts are also needed to **disperse political motivations and educate stakeholders** regarding cooperative modes of production, plant and product improvement, competitiveness, among others.

### **Innovation system actors and their interaction**

The Management Committee of the Transamazonian Cocoa Route<sup>4</sup> brings together all the relevant actors, a total number of 15, including the federal and state government, cooperatives of producers, cocoa processing companies, producers, research organizations, universities, of the innovation system of the cocoa value chain. So, in the Cocoa Route all the actors of the RIS exist, but it is needed to **emphasize the importance of the involvement of all of them, especially the government and the academy, in the actions devoted to promote territorial development**. As well the RIS is underdeveloped in terms of technical expertise, considering for example the lack of staff at research organizations, and economic performance and financing, for example due to lack of financing for export activities. Articulation of the actors shall be done in addition to better communicate the benefits of smart specialization to increase the competitiveness of the region and the sector.

The RIS actors are disarticulated, especially considering the linkages among the triple helix actors. In spite of specific initiatives, projects that have brought them together are disconnected and discontinued over time. **The sector needs a protagonist - an entity that promotes the orchestration of the actors**, which could be the role of the regional development agency, an institution to lead

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<sup>3</sup> More details about the Cocoa APL of the Transamazonian region can be seen EU-CELAC INNOV-AL Platform: Promotion of decentralised innovation policies in Brazil “First interim report: SWOT Analysis and Capacity Building Assessment”.

<sup>4</sup> According to document “Declaration of Formation of the Management Committee of the Transamazonian Pole - Cocoa Route, issued in Altamira on 14 March 2019, shared by the coordinator of the Integration Routes at the Ministry of Regional Development, which was shared by the Program coordinator.

the actors to actually build consensus on matters related to regional development based on RIS3. The political transition the state is undergoing affects also the articulation of the actors on the ground and is seen as a hindrance to the regional development process in the short-term.

Recent initiatives, such as the projects approved by the Fund for Development of Cocoa in Pará<sup>5</sup> (Funcacau, Fundo de Desenvolvimento da Cacaicultura no Pará in Portuguese), the Center for Science, Technology and Innovation dedicated to the development of the cocoa value chain, initiative proposed by the Cocoa Forum, and the “CocoaAction Brasil<sup>6</sup>”, are evidences of actions to foment the development of the sector. The first two initiatives aim specifically the Transamazonian region and involves local stakeholders. The third one is a national initiative implemented by the World Cocoa Foundation and involves stakeholders from federal and local government, industry, knowledge and research, vocation training and extension, among others. They have great potential to generate local impact but need coordination to make them come true at local level, which still lacks basic elements, such as road and telecommunications infrastructure, education from low to tertiary levels, and entrepreneurship. So, government and local stakeholders should include development of infrastructure, education and capacity building for entrepreneurship among its plans in order to boost the competitiveness of the region, not only of the sector.

### **Funding for regional development**

More than just funding, there is a need for **capacity building for elaboration of regional development projects**, targeting both national and international funders. As mentioned in the previous example, Funcacau has resources to fund local initiatives and projects as well as granting counterparts to attract resources from other sources. The difficulty lies in the preparation of good projects based on strong articulation among local stakeholders. Some local organization, for example the Federal University of Pará (UFPA), the National Service for Industrial Training (SENAI) and the Brazilian Micro and Small Enterprises Support Service (SEBRAE), just to name some examples, could organize specific training for elaboration of projects of technical, productive and territorial development to attend the needs of capacity building in this area.

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<sup>5</sup> <https://awinformaticastm.blogspot.com/2017/09/conselho-do-funcacau-aprova-r-30.html> for a list of projects (in Portuguese).

<sup>6</sup> <https://www.worldcocoafoundation.org/press-release/collaborative-initiative-announced-to-boost-sustainability-in-brazils-cocoa-sector/>

## Regional development policy

Considering the disparities in the development indicators among the regions of the state of Pará, including among the municipalities of the Transamazonian region, the participants suggested to **implement more actively funds devoted to overcoming regional inequalities**. As a model they refer to the European Structural Funds and cohesion policies. They emphasize the long tradition Brazil has in regional development policies, but they have not been effective in overcoming the deep regional inequalities. Considering the experiences learned from the European regions and from the other Brazilian states, Pará could **extend the local policies to include the importance of innovation and promote smart specialization strategies**, especially regarding the entrepreneurial discovery process, which may lead to improvement of the competitiveness of the region in the global context.

### Sectoral specific development - Cocoa “culture”

Cocoa growers in the Transamazonian region need to **further strengthen their links with research in institutes and universities in order to promote innovation**. This is partially underway, with support of the research organization Executive Commission of the Plan for Cocoa Farming (CEPLAC, Comissão Executiva do Plano da Lavoura Cacaueira in Portuguese) and projects supported by Funcaçau, and may increase with a pioneering initiative with business incubation recently implemented by UFPA. Integrating partners play an important role in sensitizing producers to the importance of innovation and to seeking technological solutions to increase productivity. It is also important to induce the creation of start-ups to boost the commercialization of the Transamazonian cocoa products.

The main obstacles have to do with the physical distance, and lack of adequate infrastructure to overcome them; with cultural aspects of the producers that are not yet aware of the strong competition from abroad and the potential productivity growth they can reach with innovation; and with short-sighted initiatives.

## 3.2. Paraná

The visit to the region of Wielkopolska, Poland allowed the participants to learn good practices about the structure for the execution of the regional development policy, especially in terms of

governance and the effective interaction of the actors of the innovation system. Following are recommendations the participants drew based on the lessons learned.

### **Governance**

Regarding governance of the regional development of the Information and Communication Technologies (ICT) sector in Paraná, it was recognized as the one that most resembles to the European model, as seen in the visited regions, although it still needs improvement. This recognition was expressed by the delegation members, including from other Brazilian States and the Federal government. Specific recommendation given by Parana member delegations is regarding **professionalization of the governance of the regional basis of the ICT sector**, as opposed to the political nomination of the members, which affects negatively the actions of governance. Engagement of technical experts will allow for fomenting of continuity in spite of changes in the State administration.

### **Innovation system actors and their interaction**

All the actors of the RIS are present in the ICT sector of Paraná, although some improvement is still needed. As seen in the European model of RIS3, the participants recommend to focus on **capacity building of RIS actors** taking into consideration the local industry focus across the different regions of the State. Capacity building activities should include participation in international cooperation projects, aiming to assimilate best practices, regarding RIS3, for example in seminars and through exposition to success cases, as well as for the formation of **leadership for regional development**. Also, technical cooperation is needed and should focus on ICT solutions of strategic priority for the State, such as in agriculture, energy, embedded systems, high performance computing.

In order to reach an efficiently operating RIS, is needed to **improve the coordination of the actors of the RIS**, also having in mind the placing of technicians, instead of political appointees, in management position to facilitate industry-academia interaction and the economic benefits that can arise from the collaboration. The State has reinforced the role of innovation in the regional development by creating a technology park management system, regulating the Brazilian innovation law at State level, implementing the law in support to micro and small business, and creating funds to support them. Still, **regional funds should be implemented to support actions focused on regional development**.

## Funding for regional development

It is recommended to improve funding conditions both for strategic economic areas of the State and to promote the catching up of less developed regions. It is recommended **to implement funding schemes that leverage the Development Fund of the State of Pará**, which is implemented by regional agencies, focusing its application in strategic areas of the State, taking advantage of the competencies of each region. The resources should be managed by a single financial entity and implemented in synergy with the Development Fund of the State of Paraná. There is also a need for some funding scheme similar to the European Regional Cohesion Fund to promote growth of those regions that are lagging behind in development across the State.

## Regional development policy

Besides specific funding for cohesion and regional development, the participants also suggested the **implementation of policies to foment the collaboration among RIS actors**, following the quadruple helix model. Focus should be placed on the development of research conducted at universities to meet the needs of the government, the economic sector and the society.

## Sectoral specific development - ICT

More emphasis should be put in **ICT as a transversal sector leading to general improvement of innovativeness and competitiveness of other economic sectors**. Specific legislation is needed to facilitate the growth of ICT use across all economic sectors of the State, especially focusing on micro and small enterprises.

As for the academic and research organizations, it is recommended they participate in **"joint ventures" with leading international institutions**, aiming at the transfer of technology applied to the productive sector. Both private and public research organizations and companies should consider celebrating international partnerships.

**Participation in international projects**, such as the ones promoted by EU framework programs, could be a means of local research organizations gaining expertise together with European actors both in regards to smart specialization and technical developments in the field of ICT. As for the moment Brazilian organizations are not automatically funded by the EU's framework program, discussions should be held with local funding organizations, for example the Araucaria Foundation, or with federal government organizations, such as the National Council for Scientific

and Technological Development (CNPq), the Funding Authority for Studies and Projects (FINEP) and the Brazilian Development Bank (BNDES). Certainty about the availability of funding will increase the likelihood of Brazilian organizations engaging in EU projects, which has been decreasing since the funding limitation was decided.

### 3.3. Pernambuco

The participants of the technical visit observed that the conditions of grapevine cultivation in the regions of Tolna County/Hungary and Petrolina/Brazil are completely different. The production of grapes and wines in the region of Tolna County resembles that practiced in the southern of Brazil, with an annual harvest. In the São Francisco River Valley, the semi-arid tropical climate, coupled with irrigation technology, enables the production of grapes throughout the year. The exchange of management and production techniques would be hampered by these essential differences. The same applies to the cultivar exchange. In this case, it should be added that the classic cultivars that produce the traditional wines are already cultivated in the two regions and present significant differences in their behavior. In addition, the Tolna region opted to invest in two local cultivars 'Kékfrankos' and 'Kadarka'.

As benefits, they consider that the very elaboration of an international cooperation project, under the supervision of the Secretariat of Science, Technology and Innovation of the State of Pernambuco (SECTI), would contribute to the strengthening of relations between the actors of the RIS.

#### Governance

The main lesson learned in this regard refers to the development agency models seen in Europe. This leads to a recommendation to **foment learning on how multi-level governance works in the context of smart specialization strategies (S3)**. The role of development agencies and how they coordinate the actions and actors in the territorial development process is of ultimate importance to the development context of Pernambuco in general, and particularly for the region of Petrolina and the Vitiviniculture APL<sup>7</sup>. **Exchange of good practices should focus on how to motivate and**

<sup>7</sup> More details about the Vitiviniculture in San Francisco Valley region can be seen EU-CELAC INNOV-AL Platform: Promotion of decentralised innovation policies in Brazil "First interim report: SWOT Analysis and Capacity Building Assessment."

**engage relevant stakeholders, project development and the operational model of the development agency.**

In the discussion between the two regions, it was realized that Tolna County could not supply the knowledge Pernambuco needs regarding governance of the RIS. So, we recommend that **Pernambuco implements cooperation with the North-East Romania Development Agency** for that purpose. The level of development of the Para and Pernambuco and the proximity of the two regions could facilitate this exchange.

### **Innovation system actors and their interaction**

The region of the São Francisco Valley has a robust innovation system, constituted of universities and federal research institutes, the Brazilian Enterprise for Agricultural Research (EMBRAPA), institution to provide vocational training (the National Service for Industrial Training, SENAI) and support to micro-, small- and medium-sized business (Brazilian Micro and Small Enterprises Support Service, SEBRAE), wine producer companies, about 700 grape producers, and cooperatives.

SECTI, within the framework of its 2017-2022 Strategy for Science, Technology and Innovation, has been stimulating the engagement of the actors of the São Francisco Valley RIS. In 2017, it elaborated a Plan for the Improvement of the Valley's Vitiviniculture, in which was verified a low level of interaction among them. So, the cooperation with Europe will aim as well to **learn how to engage and orchestrate the actors of the RIS to be applied to the Vitiviniculture RIS.**

### **Funding for regional development**

Unlike in Europe, in terms of the RIS3 methodology for access to European funds, in Pernambuco, even though it has a well-defined strategy and plan to improve the competitiveness of the sector, there is no guarantee of financial resources for execution of actions. The government of the state is aware of the need for resources especially for the financing of innovation. In this sense, the restructuring of a local fund is underway and is expected to be implemented by the State Development Agency. SECTI expects to **learn how to engage the actors of the RIS in development actions challenging enough to motivate them to work together to develop projects and acquire funding**, including from international sources. Capacity building for project creation and access to international funding should also be addressed by the cooperation.

### Regional development policy

S3 in Tolna County contribute to the structuring and organization of regional investments. Similarly, the Strategy for Science, Technology and Innovation of Pernambuco, in its strategic axis "Acceleration of Innovation in Economic Activities", operates to reach those goals. The technical mission to Europe made it possible to verify the importance of guaranteeing resources for the execution of the regional policy and, in addition, establishing a methodology for coordinating actions. The envisioned cooperation should **strengthen both the capacity to coordinate and promote interaction among RIS actors and the regional development policy itself.**

### Sectoral specific development - Vitiviniculture

The cooperation with Europe should focus on **exchange of agricultural practices between the local organizations**, such as Instituto de Tecnologia de Pernambuco and Embrapa, and the University of Pécs from the Hungarian side. Although the climate and cultivars are different, as expressed in the beginning of this sub-section, the organizations have found topics of interest to pursue the collaboration. They are reported in the pilot project for Pernambuco below.

### 3.4. Brazilian Context: general recommendations

RIS3 initiatives should be better coordinated with other policies of the MDR, such as the National Integration Routes Project, which can provide resources for infrastructure and productivity-enhancing projects in sectors that are still deficient. **Greater coordination of activities should be done also with the Ministry for Science, Technology, Innovations and Communications (MCTIC), as well as with specific ministries**, such as the Ministry of Agriculture for the cocoa and vitiviniculture sectors, and other policies and programs aimed at improving innovation and competitiveness in the geographical areas of the project. The lack of explicit funding sources for RIS3 projects should lead to **increased interaction of between MDR and MCTIC for joint programming.** As well, effective participation of state governments and the actors of their innovation systems is a basic condition for the implementation of RIS3, considering the local competencies in both science, technology and innovation and production.

The formation of an expert group on RIS3 in Brazil has been articulated and is receiving institutional support from the MDR. A formal announcement in support of the initiative was made

by the Undersecretary for Partnerships, Institutional Arrangements and International Cooperation. This expert group shall reflect on the RIS3 as implemented in Europe and its “translation” to Brazilian environment. Although, a S3 experiment carried out in Paraná revealed that apparently there is no need to customize the methodology too much, seeing the range of territorial development strategies implemented by the three states involved in the present project, it is clear the need to understand better what are the differences across and within regions in order to define approaches that are suitable to those conditions. **Governance, and specifically multi-level governance models**, is the the most important topic for the expert group to devote to in order to **promote capacity building with the regions**.

Specifically, for the cases of Pará and Pernambuco, a discussion is being held between MDR and the North and North-East Development Agencies (SUDAM and SUDENE respectively) to expand and strengthen their RIS, in articulation with the Macro-regional Regional Development Plans. It would be important to **articulate the RIS3 experiences of Pará and Pernambuco in this process**. As well, **greater articulation with MCTIC should be done to broaden the articulation with the innovation policies and actions of the two ministries for those regions**. Local state local governments shall be **encouraged to participate in activities related to smart specialization and federal government initiatives to exchange experiences, identify opportunities and establish partnerships with states and with the private sector in the regions**.

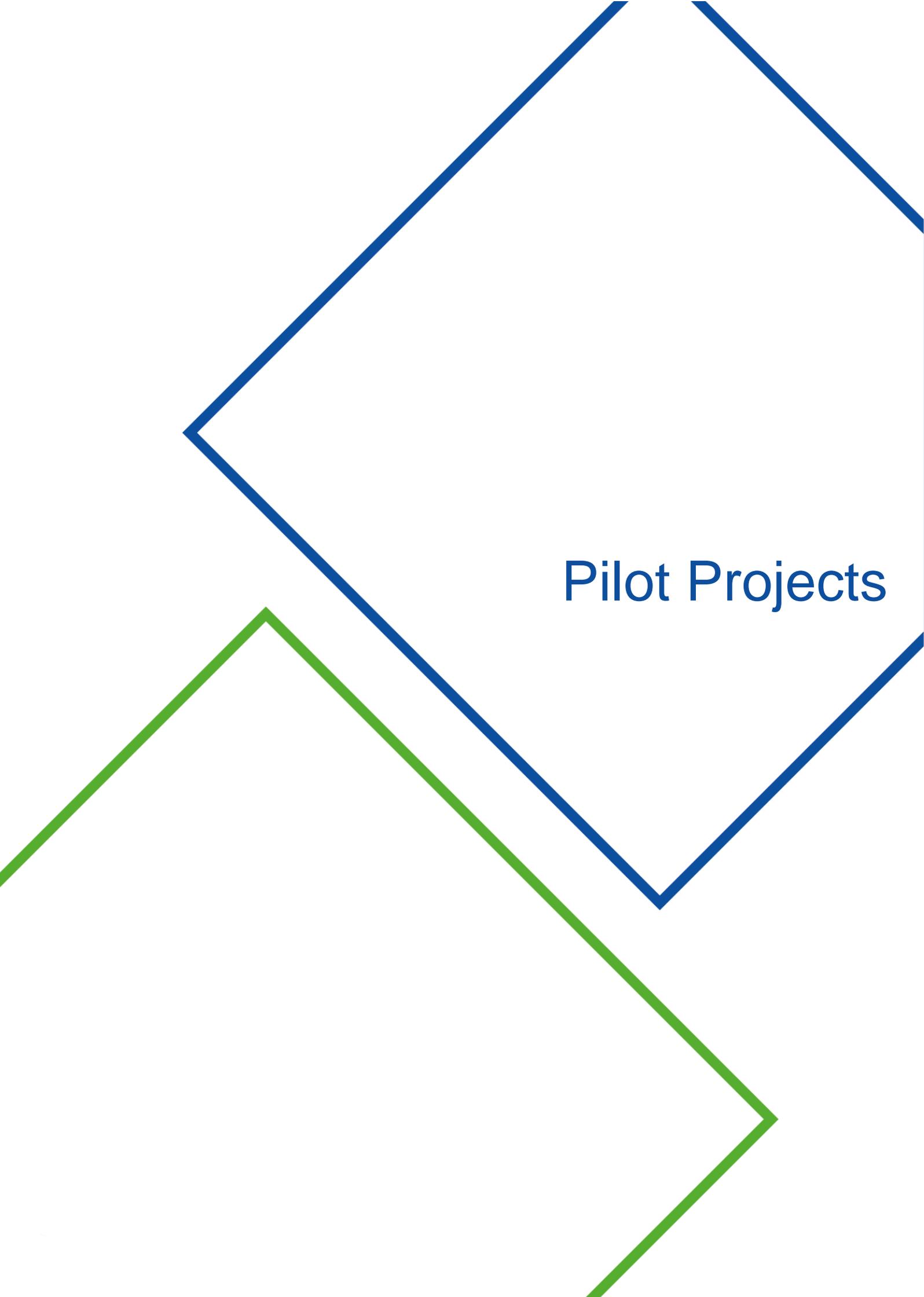
Besides the necessary joint programming and funding from MDR and MCTIC, **states should also be mobilized to organize their own sources of funding or to identify federal sources that may support the performance of RIS3 in their territories**. It is important to **increase the knowledge in the states about the RIS3 methodology to make them more active and proactive partners**. This will contribute as well to the adaptation/verification of RIS3 methodology to the Brazilian reality. With the results of the process (adaptation/verification of the RIS3 in the Brazilian territory), it would be upon the MDR and other agencies to **seek the creation of a structure and financial resources to support RIS3 projects**. This action should be carried out in a joint discussion with MCTIC and can find in 2019 a timely environment in the elaboration of the new programming period for 2020-2023.

To foster better conditions for regional development, **local innovation environments should be fomented**. In these environments, there should be **coordinated effort by universities with government agencies and private companies**. Placing them in the context of smart specialization

may generate more fruitful partnerships for the involved organizations and the local territorial development.

The Federal Government is reviewing the National Policy for Regional Development (PNDR, Política Nacional de Desenvolvimento Regional in Portuguese) and one of the changes deals with the emphasis given to innovation. The results obtained by the present project should **support proposal for actions within the scope of the PNDR, in articulation with other projects to support productive development.**

In the scope of the cooperation between the Brazilian government and the European Union in matters of regional development, **synergies with other projects that deal with sectors that are present in Brazil and consider exchange of experiences among them.** Exchange of good practices should be pursued also in the South-South cooperation axis, especially for similar projects implemented with support from the Directorate-General for Regional and Urban Policy (DG-Regio).

The image features two prominent geometric lines. A blue line starts at the top center, extends to the right edge, then turns left to the left edge, then right to the bottom center, and finally left to the right edge. A green line starts at the left edge, extends to the right, then turns left to the top center, then right to the bottom center, and finally left to the right edge. The text 'Pilot Projects' is positioned in the upper right quadrant of the image.

Pilot Projects

## 4. Pilot projects

Six pilot projects were defined, two per cooperation pair/Brazilian state. The projects have resulted from a collaborative and constructive process from inputs of European regions and Brazilian states in common cooperation interests at policy and sectoral levels. The pilot projects aim to be practical oriented experiences and suitable for implementation after completion of the present project. The following sections identify the different pilot projects proposed through the different relationship and capacity building moments provided during the project implementation.

### 4.1. Pará and North-East Region - Romania

Initially, as a result of the bilateral conference calls organised during the project implementation and also as an outcome of the study visits, representatives of Pará state and North-East Region Romania have proposed pilot project ideas to jointly implement and cooperate. The list is presented as follows and the two initial projects are the ones selected (that are described in details in the tables below):

1. **Exchange of experiences and good practices on the management of a Regional Development Agency** or a Regional Innovation Body to promote competitiveness, innovation and entrepreneurial discovery Process (EDP) and on the governance model
2. **Exchange of experiences and good practices on methods and strategies to support local farmers** (Pará to North-East Romania);
3. **Exchange of experiences and good practices on the Entrepreneurial Discovery Process (EDP)** and on the governance model: bodies and mechanisms to engage the stakeholders in the regional innovation system (North-East Romania to Pará). Therefore, some webinars and conference calls would be held in order to foster the knowledge exchange;
4. Exchange of experiences and good practices on **Brazilian no-till agriculture technique** (Pará to North-East Romania). This project, proposed by North-East Region, aims at acquiring knowledge in the no-till technique, that Brazil is very advanced in, involving research institutes such as EMBRAPA in Brazil to pass on their expertise in areas such as

- no-till system components, soil management techniques, monitoring of chemical, physical and biological soil processes in areas under a no-till system, the economic feasibility of the system, environmental impact assessment, etc;
5. **Technical cooperation on biotechnology research:** Between the Agri-food Valorisation Centre of Amazonian Bioactive Compounds and the Agriculture and Environment Research Institute in Iasi to cooperate on specific research areas, e.g. cacao by-products and non-wood forest products (NWFP) such as açai (to be further discussed by researchers). This cooperation would be achieved through carrying out missions of researchers from both institutes to analyse potential research topics and common interests and to start the definition of a common research framework programme;
  6. **Academic cooperation / agreement:** Universities Cooperation Agreement to be signed and to facilitate students' mobility schemes and further academic cooperation projects. For example, UFPA is a large and well-recognized university in Brazil and has several courses and areas of expertise, and would be an excellent partner to cooperate with the Romanian counterpart. The agroforest systems in Pará and the North-East of Romania and the sustainability issues related to both systems could be the first research project, inside the cooperation agreement between the two Universities. This academic cooperation would allow not only the mobility of students, but also teachers and researchers through a regular established programme;
  7. Exchange of experiences and good practices on the business model of a Start Up visited in Iasi - "Roade si Merinde": **Connecting farmers and markets** (North-East Romania to Pará). Some local relevant agents from Pará would participate on a field mission to visit and learn from the Start Up method and to propose collaborative projects, such as to create a branch in Pará or to replicate the model in Brazil – respecting potential intellectual property rights. As the system create by Roade si Merinde aims to connect directly farmers and local customers, Pará is very interested in further connecting producers and consumers in a more direct way – and reducing the intermediaries to strengthen the economic power of the agri-food producers.

From this list, the stakeholders have agreed in refining and further focusing in two main pilot projects, one at the policy level and the other at the sector level, described in details in the following tables:

Table 2: Pilot project 1 - Pará and North-East Region Romania

PROJECT 1	Exchange of experiences and good practices on the management of a regional development agency
Dates	Start: 2019 End: 2020
Location of actions	Virtual
Stakeholders involved	<ul style="list-style-type: none"> <li>▪ Federation of Agriculture Industry of Para (FAEPA)</li> <li>▪ North-East Development Agency (NERDA)</li> <li>▪ Secretaria de Estado de Ciência, Tecnologia e Educação Profissional e Tecnológica (SECTET)</li> <li>▪ Secretaria de Desenvolvimento Econômico, Mineração, Energia e Turismo (SEDEME)</li> </ul>
Target actors / beneficiaries	<ul style="list-style-type: none"> <li>▪ Secretaria de Estado de Ciência, Tecnologia e Educação Profissional e Tecnológica (SECTET)</li> <li>▪ Secretaria de Desenvolvimento Econômico, Mineração, Energia e Turismo (SEDEME)</li> <li>▪ New created Regional Development Agency in Pará / Transamazonian Region</li> </ul>
Objectives	<p>The main goal is to establish a consistent exchange of experiences on how the governance of the economic development process takes place in both regions-states, taking into consideration that for the North-East Development Agency (NERDA) east the functions are broader, given that economic development plays a central role in this region. The idea is to create a common knowledge transfer space to promote competitiveness, innovation and entrepreneurial discovery process and on the governance model.</p>
Description of work / tasks to be developed	<p>In a first moment, the action aims to propose discussions on governance in the NERDA and also in the equivalent institutions in Pará. In order to do so, it is necessary to determine the governance system of competitiveness and innovation policies in Pará. Subsequently, the idea is to analyse the governance of each of the institutions in Pará and compare the results with the equivalent from NERDA, studying the advantages and disadvantages of each form of governance. Moreover, the action will focus on analysing measures that have been put in place, and the effects generated by them, carrying out a cost/benefit analysis, so that the action can cover the exchange of both positive and negative practices.</p>

PROJECT 1	Exchange of experiences and good practices on the management of a regional development agency
	<p>In the given process, an important aspect will be to analyse the general framework in which policies and measures are defined and implemented. In the case of North-East, the scenario is the Regional Innovation Smart Specialisation Strategy (RIS3). Throughout this exchange action, the Brazilian counterparts will learn how the process of defining the RIS3 took place, as well as the procedure under which it has been launched.</p> <p>Additionally, from the perspective of Pará, local organisations that participate in such policies will be contacted, in order to analyse whether these organisations work under a common frame of reference (Strategy) or if, on the contrary, each organisation responds to their own dynamics, and in this case, how the governance of the system operates.</p> <p>After this analysis of the general framework, it will be investigated what are the different measures implemented in each country, and what is their assessment, in order to produce a catalogue of good practices.</p> <p>Throughout this action, another important aspect will be to analyse policies in support of productive diversification and the generation of new economic activities producing higher added value. In the Romanian case, this is what is called the Process of Entrepreneurial Discovery and Related Diversification. North-East Romania will be provided with a chance to demonstrate how this process was defined in the RIS3, how it has been implemented and what its associated results are. In the case of Pará, measures to support diversification will be presented, as well as the results that derive from it.</p> <p>It is foreseen that this cooperation can be started on a basis of webinars that both Pará representatives and NERDA will participate.</p>
hPotential funding sources	<ul style="list-style-type: none"> <li>▪ Banco da Amazônia</li> <li>▪ Financiadora de Estudos e Projetos (FINEP)</li> <li>▪ National Bank for Economic and Social Development (BNDES)</li> </ul>
Expected results	<ul style="list-style-type: none"> <li>▪ Learning better definition of policies and their application methods;</li> <li>▪ Create institutional level cooperation opportunities, i.e. to develop a common EDP in the field of agribusiness with North-East Region representatives to foster the cooperation opportunities, among others;</li> <li>▪ Generating commercial, economic and technological collaborations and synergies between the Brazilian Romanian counterparts.</li> </ul>

Table 3: Pilot project 2 - Pará and North-East Region Romania

PROJECT 2	Exchange of experiences and good practices on methods and strategies to support local farmers
Dates	Starts in 2019 Ends in 2020
Location of actions	Virtual and in person in Romania and Pará
Stakeholders involved	<p>From Brazil</p> <ul style="list-style-type: none"> <li>▪ Federal University of Pará (UFPA)</li> <li>▪ Technological Park</li> <li>▪ Federation of Agriculture Industry of Para (FAEPA)</li> <li>▪ Management Committee of the Transamazonian Pole</li> <li>▪ Executive Commission of the Plan for Cocoa Farming (CEPLAC)</li> <li>▪ Embrapa Amazônia Oriental</li> <li>▪ Banco da Amazônia</li> <li>▪ Technical and Rural Extension Enterprise (EMATER)</li> <li>▪ Agri-food producers' associations</li> </ul> <p>From Romania</p> <ul style="list-style-type: none"> <li>▪ North-East Romania Region (NER)</li> <li>▪ North-East Romania Development Agency (NERDA)</li> <li>▪ University of Suceava</li> <li>▪ University of Iași, Romania</li> <li>▪ Vegetable Research and Development Station Bacau</li> <li>▪ Agri-food producers' associations</li> </ul>
Target actors / beneficiaries	<ul style="list-style-type: none"> <li>▪ Agri-food producers</li> <li>▪ Federation of Agriculture Industry of Para (FAEPA)</li> <li>▪ North-East Romania Region (NER)</li> </ul>
Objectives	<p>The relevant role played by the agriculture and food industry derives from the need to provide a healthy and reliable supply to consumers. In addition, the agriculture and the agri-food sectors benefit from a prominent presence in RIS3 in Europe, including the North-East Romania region, as well as in Brazil, regardless of the different policy scenarios. It is noticeable within these sectors a greater commitment to technology and innovation in recent years, even though it is also a very disparate sector. The referred commitment to technology and innovation has taken place in large companies and in medium-sized enterprises located in more urban areas. This aspect, however, does not reach rural enterprises. This discrepancy represents barriers for the integration, innovative development and competitive improvement of the entire agri-food value chain. For this reason, this action aims to improve measures to support competitiveness and innovation by key agencies of the agri-food sector in a more integral perspective, that includes awareness of the importance of competitiveness, innovation, management and technology, and the dissemination of existing support measures, training and financial instruments tailored to the needs of rural SMEs. In this manner, this</p>

PROJECT 2	
Exchange of experiences and good practices on methods and strategies to support local farmers	
	<p>project will emphasize the importance for businesses to generate greater added value and competitiveness.</p>
Description of work / tasks to be developed	<p>The main focus of this action will be to carry a joint analysis of the programs that each region carries out, in order to define the necessary steps for the improvement of existing competitiveness and innovation programs. This analysis and the sharing of experiences related to the management of current programmes will provide the basis for defining new programs specifically aimed at SMES in the agri-food sector</p> <p>In an initial phase, the project will establish collaboration between Pará and North-East Romania Region, allowing the exchange of experiences and innovative approaches in the field of development of public programmes that support SMEs, specifically in the agriculture and agri-food sector, addressing priorities, challenges and shared needs within the sector, and developing key capacities in agencies themselves.</p> <p>Moreover, it will be established a work methodology of inter-agencies collaboration (twinning methodology) based on the identification of best practices and on the collaboration and implication of all agents involved in competitiveness and innovation, and also on the competitive improvement of all the needs of agri-food SMEs, within the framework of S3 in Romania and in the different strategic plans related to the agri-food sector in Brazil.</p> <p>This project will involve practitioners, researchers and policy makers by webinars and programmed site and study visits.</p>
Potential funding sources	<ul style="list-style-type: none"> <li>▪ FUNCACAU</li> <li>▪ Banco do Amazônia</li> <li>▪ National Bank for Economic and Social Development (BNDES)</li> </ul>
Expected results	<ul style="list-style-type: none"> <li>▪ Definition, proposal and design of new support programs for competitiveness and innovation;</li> <li>▪ The development of specific tools and projects for rural SMEs in the agriculture and agri-food sector;</li> <li>▪ Establishment of programs that incorporate the experiences and innovative approaches shared in the bilateral collaboration network, as well as key factors for the advancement in the improvement of competitiveness, sustainability and specialization of Romanian and Brazilian SMEs;</li> <li>▪ Benefit of local farmers in both regions by creating a more favourable regulatory environment and innovative incentives and strategies to support the economic development of local small and medium-size farmers.</li> </ul>

## 4.2. Paraná and Wielkopolska - Poland

From the bilateral conference calls organised during the project implementation and also as an outcome of the study visits, representatives of Paraná and Wielkopolska have proposed pilot project ideas to jointly implement and cooperate. The list is presented as follows and the two initial projects are the ones selected (they are described in details in the tables below):

1. **Implementation of Entrepreneurial Discovery Process in Paraná to strengthen cooperation opportunities with Wielkopolska** in the field of energy and agribusiness;
2. **Bilateral cooperation for specific institutions:** Economic Department of Wielkopolska, University of Poznan and Federal University of Paraná; Poznan Supercomputing Centre with the ICT Governance Group (to be prospected and verified the best cooperation arrangement and composition);
3. **Identification of consortia or calls** that foster joint projects with Wielkopolska (for example in EU's framework programs, ENRICH in Brazil, etc.). Therefore, a series of technical webinars to identify specific R&I topics for cooperation is proposed, particularly in the agri-food sector, involving very specific researchers from both sides;
4. Foster **exchange among innovation funding agencies**. Considering the relevance of funding to the success of a bilateral RIS3 cooperation between Paraná and Wielkopolska, each region would check the national/regional funding sources available to support R&I international cooperation actions. Such identification would be important to design the pilot cooperation projects in a way to fit into the eligibility and selection criteria of such funding sources;
5. Possible participation of **Wielkopolska in agri-food related events in Paraná** (such as Show Rural Coopavel, Expo Londrina and Mylnova, among other events). The participation of the Polish agents in local events would strengthen the relationship between the two regions, re-establish face-to-face contact between agents, and create new opportunities for cooperation;
6. The needs and especially the benefits of cooperation with Paraná should to be well **explained to local R&I actors**. So, a series of webinars and conference calls would be held

with Wielkopolska representatives and main stakeholders, in order to inform and educate these actors about the cooperation programme.

7. **Sharing the existing research groups and research lines implemented** by each region's universities and research centres. This would enable the matching among macro topics of interest, as well as the identification of the concrete researchers to be invited to the webinars. In addition, study visits from professors/researchers would be fostered, with the goal of identifying concrete R&I topics for cooperation.
8. **Establishment of memorandums of understanding** at several levels, for instance, between the regional development agency and ICT Governance group, universities, Technology Parks and Supercomputing Centre, etc.

From this list, the stakeholders have agreed in refining and further focusing on two main pilot projects, one at the policy level and at the sector level, described in details in the following tables:

Table 4: Pilot project 1 - Paraná and Wielkopolska

PROJECT 1	Exchange of good practices about the EDP and the possibility of developing a joint EDP focused on the agri-food sector
Dates	Starts 2019 Ends 2020
Location of actions	Virtual
Stakeholders involved	<ul style="list-style-type: none"> <li>▪ Secretaria de Desenvolvimento Econômico (SDE);</li> <li>▪ Secretaria de Ciência e Tecnologia e Ensino Superior (SETI);</li> <li>▪ ICT Governance Group in Paraná;</li> <li>▪ Marshal Office in Poland</li> </ul>
Target actors / beneficiaries	<ul style="list-style-type: none"> <li>▪ Secretaria de Desenvolvimento Econômico (SDE);</li> <li>▪ Secretaria de Ciência e Tecnologia e Ensino Superior (SETI);</li> <li>▪ ICT Governance Group in Paraná;</li> <li>▪ Marshal Office in Poland</li> </ul>
Objectives	<p>The project aims the exchange of experiences on how the promotion of the EDP is done in both regions-states. On a second stage, after the knowledge of the EDP process is acquired and replicated in the whole state of Paraná, the idea is to develop a joint EDP to find cooperation opportunities on the field of ICT applied to the agri-food sector.</p> <p>An important aspect will be to analyse the policies of support for productive diversification and the generation of new economic</p>

PROJECT 1	Exchange of good practices about the EDP and the possibility of developing a joint EDP focused on the agri-food sector
	<p>activities generating higher added value. In Europe in general, and specifically in the Polish case, this is what is called the Entrepreneurial Discovery Process and Related Diversification.</p> <p>The Polish side will explain how the RIS3 process was developed, how it is being implemented and what the main results are. From the Paraná side there will description of the implemented measures to support diversification and the results obtained so far.</p> <p>In this case, both regions will apply this concept to agri-food sector, since it is one of the sectors where a greater commitment to technology and innovation in big enterprises has been observed in recent years, although this trend does not reach rural enterprises. This makes integration, innovative development and competitive improvement of the entire agri-food value chain difficult.</p>
Description of work / tasks to be developed	<p>The first step will be the exchange of experiences in the field of development of public programs that support SMEs, specifically in the agriculture and agri-food sectors, addressing priorities, challenges and shared needs within the sector and developing key capacities in the agencies themselves. Later, they will make a joint analysis of the programs that each region carries out to see if they promote diversification and to define the necessary steps for the improvement aimed at promote diversification of SMES in the agri-food sector.</p>
Potential funding sources	<ul style="list-style-type: none"> <li>▪ Fomento Paraná</li> <li>▪ Agência Paraná de Desenvolvimento</li> <li>▪ Financiadora de Estudos e Projetos (FINEP)</li> <li>▪ European fund for the Wielkopolska region</li> <li>▪ Sectoral Dialogue Programme (Brazil and European Union)</li> </ul>
Expected results	<ul style="list-style-type: none"> <li>▪ Improve the policy making and institutional framework, in order to be further prepared and connected to the sectors – prior condition to support the economic sectors (ICT and agri-food in this case) in a more effective way;</li> <li>▪ Improve the capacities of agri-food sector and its linked activities, especially considering the ICT sector applicability (Agri-food 4.0).</li> </ul>

Table 5: Pilot project 2 - Paraná and Wielkopolska

PROJECT 2	Cooperation among Poznan Supercomputing Centre and ASSESPRO from Paraná (representing the ICT Governance Group)
Dates	Starts in 2019 Ongoing
Location of actions	Virtual and in person in Paraná and Wielkopolska, Poland
Stakeholders involved	<ul style="list-style-type: none"> <li>▪ ICT Governance Group in Paraná;</li> </ul>

PROJECT 2	Cooperation among Poznan Supercomputing Centre and ASSESPRO from Paraná (representing the ICT Governance Group)
	<ul style="list-style-type: none"> <li>▪ Supercomputing Centre in Poznan;</li> <li>▪ ASSESPRO Paraná</li> </ul>
Target actors / beneficiaries	<ul style="list-style-type: none"> <li>▪ ICT Governance Group in Paraná;</li> <li>▪ Supercomputing Centre in Poznan;</li> <li>▪ ASSESPRO Paraná</li> </ul>
Objectives	<p>Strengthen cooperation ties and sign formal Memorandum of Understanding (MoU) that formalises the cooperation on research (at a first stage) and that will pass to the cooperation on joint innovation development and business opportunities.</p>
Description of work / tasks to be developed	<ul style="list-style-type: none"> <li>▪ Regular meetings among institutions representatives;</li> <li>▪ Definition of content of MoU;</li> <li>▪ Mission composed of the appropriate representatives to visit Poland in order to exchange experiences and to sign the MoU;</li> <li>▪ Identify the need of research actors and companies on both regions (cross-regional necessities)</li> <li>▪ Establishment of stable working groups focused on common relevant research and development areas;</li> <li>▪ Organisation of business rounds (business to business) between Polish and Brazilian producers and suppliers that are associated with ICT Governance Group and the Poznan Supercomputing Centre's stakeholders.</li> </ul>
Potential funding sources	<ul style="list-style-type: none"> <li>▪ Fomento Paraná</li> <li>▪ Agência Paraná de Desenvolvimento</li> <li>▪ Financiadora de Estudos e Projetos (FINEP)</li> <li>▪ European fund for the Wielkopolska region</li> <li>▪ Sectoral Dialogue Programme (Brazil and European Union)</li> </ul>
Expected results	<ul style="list-style-type: none"> <li>▪ Deep definition of areas for collaboration in the near future (medium and long term);</li> <li>▪ Have a formal partnership successfully agreed;</li> <li>▪ Potential to co-develop high-end research and development innovations that might support local actors in both Paraná and Poland to strengthen its productive systems (special thematic focus).</li> </ul>

### 4.3. Pernambuco and Tolna County - Hungary

From the bilateral conference calls organised during the project implementation and also as an outcome of the study visits, representatives of Pernambuco and Tolna County have proposed pilot project ideas to jointly implement and cooperate. The list is presented as follows and the two initial projects are the ones selected (they are described in details in the tables below):

1. **Research of adaptation of grape varieties to climate change;**
2. **Exchange of experiences on the issue of Marketing and Tourism** – tourism, especially wine routes;
3. **Exchange of good practices** about agricultural processes, winemaking, **quality control and innovation** – with possible involvement of the National Agriculture Chamber. The exchange of good practices would be done essentially through the implementation of webinars and conference calls on the specific topics mentioned, with experts from both Pernambuco and Tolna County.
4. **Regulation for exports and adaptation of producers: Exchange of good practices.** In order to conduct the knowledge transfer, a series of initiatives will be performed, including webinars and conference calls.
5. **Development Agency model:** to learn how multi-level governance works – exchange of good practices in motivating and involving relevant stakeholders, project development and how a development agency should work. This would be implemented through mission fields and online events (conference calls and webinars).

From this list, the stakeholders have agreed in refining and further focusing in two main pilot projects, one at policy and other at the sector levels, described in details in the following tables:

Table 6: Pilot project 1 - Pernambuco and Tolna County

<b>PROJECT 1</b>	<b>Exchange of experiences on Marketing and Tourism –especially wine routes</b>
Dates	Start 2019 End 2022
Location of actions	Vale do São Francisco (PE) and Tolna County (HU)
Stakeholders involved	<ul style="list-style-type: none"> <li>▪ Entrepreneurs</li> <li>▪ Universities</li> <li>▪ EMBRAPA</li> <li>▪ VINHOVASF – Instituto do Vinho Vale do São Francisco</li> <li>▪ SECTI – Secretaria de Ciência, Tecnologia e Inovação</li> </ul>

PROJECT 1	Exchange of experiences on Marketing and Tourism –especially wine routes
	<ul style="list-style-type: none"> <li>▪ CODEVASF – Companhia de Desenvolvimento dos Vales do São Francisco e Parnaíba</li> </ul>
Target actors / beneficiaries	<ul style="list-style-type: none"> <li>▪ Entrepreneurs</li> <li>▪ Universities</li> <li>▪ Research Institutes as EMBRAPA</li> </ul>
Objectives	<p>Pernambuco is one region that has the development of wine activities among the objectives of its policies of economic promotion. Then, for Pernambuco to focus also in the support of one well-structured offer of wine tourist routes could be a big help for the promotion of one production of wines of quality. The reason is that is difficult to sell priced wines without one image, not only of good product, but also of product related to culture and craftsmanship belonging to one territory and one culture. And in this purpose the image improved by tourists visiting the caves is one of the better ways to arrive.</p> <p>One important conclusion of the existing experiences is that is easier to promote a wine destination creating alliances between the different actors and the different caves. This alliance would permit to offer to the tourist one more complete destination, with more varied experiences and more complementary services, and not only the visit to one single cave.</p> <p>Europe (including Hungary) has an oldest tradition of wine production, and that explain that wine tourism has been developed since long time ago. Hungary, as a traditional producer with some of the most reputed wines in the past and a recuperate quality production actually, attire a big interest from wine lovers of all around the world. That explain that Tolna County has an experience of wine tourist that could help to shortcut the learning curve of Pernambuco in the skills to promote the wine routes as tourist destination.</p> <p>In this way, both regions could collaborate to define a learning process</p>
Description of work / tasks to be developed	<p>The following steps are expected to guide the implementation of this pilot project:</p> <ol style="list-style-type: none"> <li>1. Create a common space for research and development as a first step;</li> <li>2. Identification of potential routes in Pernambuco. Agreement with the responsible of the caves to promote wine tourism, and in particular wine routes;</li> <li>3. Creation of one common committee between Tolna and Pernambuco to manage the project of collaboration;</li> <li>4. Definition of one training program, to be implemented in digital way to disseminate research results (video conference, skype, and others). The program will be focused in how to create an offer in one cave to attract the tourists, and how to promote the alliance between the producer to be able to create one route.</li> </ol>

PROJECT 1	Exchange of experiences on Marketing and Tourism –especially wine routes
	<p>One important thing will be how to promote complementary activities (hotels, restaurants, excursions, etc...)</p> <ol style="list-style-type: none"> <li>5. If there would financing, cross-visits will be organised</li> <li>6. Both governments will promote the possibility to create joint-ventures and cross investments between Brazilian and Hungarian entrepreneurs</li> </ol>
Potential funding sources	<ul style="list-style-type: none"> <li>▪ Brazilian Development Bank (BNDES)</li> <li>▪ Bank of North-East Brazil (BNB)</li> <li>▪ Superintendence for the Development of North-East (SUDENE)</li> </ul>
Expected results	<ul style="list-style-type: none"> <li>▪ Academic and research level cooperation and exchange</li> <li>▪ Strengthen the connections between business and policy level through a more direct dialogue flow.</li> </ul>

Table 7: Pilot project 2 - Pernambuco and Tolna County

PROJECT 2	Research of adaptation of grape varieties to climate change
Dates	<p>Starts in 2020 Ends in 2025</p>
Location of actions	San Francisco Valley – Pernambuco
Stakeholders involved	<ul style="list-style-type: none"> <li>▪ Universidade Federal do Vale do São Francisco (UNIVASF);</li> <li>▪ University of Pécs;</li> <li>▪ Research institutes in Brazil: Brazilian Agricultural Research Corporation (EMBRAPA) and Pernambuco Institute of Technology (ITEP)</li> <li>▪ Government of Pernambuco - Secretary of Science and Technology</li> </ul>
Target actors / beneficiaries	<ul style="list-style-type: none"> <li>▪ Universidade Federal do Vale do São Francisco (UNIVASF);</li> <li>▪ University of Pécs;</li> <li>▪ Research institutes in Brazil: Brazilian Agricultural Research Corporation (EMBRAPA) and Pernambuco Institute of Technology (ITEP)</li> <li>▪ Producers in Tolna County and Pernambuco.</li> </ul>
Objectives	<p>This pilot project aims to establish exchange of good practices between the two regions on how specific varieties of grape can be adapted to geographical areas with elevated temperatures, building upon the expertise of Tolna in order to support the production of quality wine in Pernambuco.</p> <p>The effects of climatic change have presented noticeable effects on the wine production sector, given that vines are sensitive to small changes in climatic conditions. Due to climate change, shifts can be observed within the sector, such as the entry of England as a new player, producing quality wine, and traditional wine regions experimenting changes in the quality of their wines, in the period of</p>

PROJECT 2      Research of adaptation of grape varieties to climate change	
	<p>recollection and in the alcoholic graduation. Facing that situation, established actor in the sector may fall out of the scene. For this reason, it is important that traditional wine producers start to look for alternatives, in particular for new quality grapes better adapted to hotter climatic conditions. Give that grapes are a product that require a long time to start to produce wine of quality, alternatives shall be sought with due advance, including carrying studies on how the climatic change will affect specific varieties of grape.</p> <p>Facing this world problem, this pilot action will allow Tolna Country to analyse whether its varieties of grape will be strongly affected by the climatic change, and to induce the search for clones better adapted to hotter temperatures and drier climate, or for new varieties of grape that are better adapted to the new conditions and still able to produce wine of quality.</p>
Description of work / tasks to be developed	<p>In the implementation procedure of the project, the first step is to establish a research programme framework and to sign a MoU among research institutes, in order to protect the experiments and results that might arise from any risk of property rights.</p> <p>Regarding the practical tests that will follow the previous bureaucratic measures, Tolna representatives will select grape varieties and clones and proceed with planting them in Pernambuco. Analysis will be made in order to study how these plants will evolve, and which is the result of vinifying them.</p>
Potential funding sources	<ul style="list-style-type: none"> <li>▪ Brazilian Development Bank (BNDES)</li> <li>▪ Bank of North-East Brazil (BNB)</li> <li>▪ Superintendence for the Development of North-East (SUDENE)</li> </ul>
Expected results	<p>To increase the scientific know-how of wine producers in Pernambuco, building upon the know-how acquired by the Tolna region.</p>

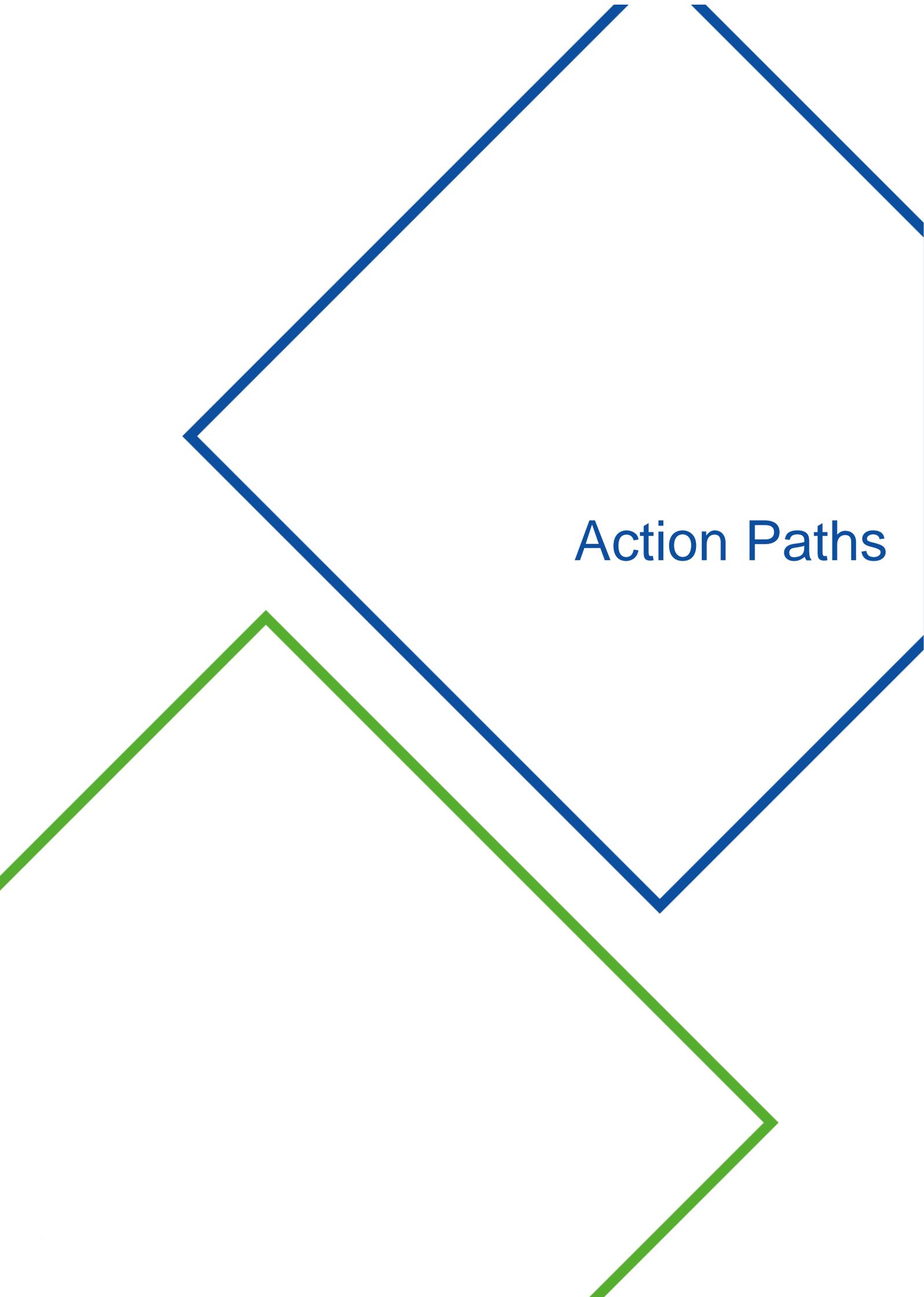
#### 4.4. Brazilian Authorities: common projects

During the project implementation, and more concretely as a result of the study visit and the conference calls among Brazilian representatives, a common project was suggested as an idea to promote the exchange of knowledge and good practices among the Brazilian states on smart specialisation, presented in details in Table 8.

Table 8: Brazilian Forum on Smart Specialisation pilot project

PROJECT	Brazilian Forum on Smart Specialisation
Dates	Start in 2019
Location of actions	Brazil
Stakeholders involved	<p>Brazilian states' representatives involved in the project: Pará; Paraná and Pernambuco (from the public and private sectors);</p> <p>Representatives of the Federal Government: Ministry of Regional Development (MDR) and Ministry for Science, Technology, Innovation and Communications (MCTIC).</p>
Target actors / beneficiaries	Brazilian policymakers and sector representatives
Objectives	<p>It is well understood in Europe the importance of decentralisation in policymaking actions, especially when it comes to the regional innovation systems and to development of strategies to better supply the local entrepreneurs and the main regional / local economic activities. It is proved that when properly designed and implemented, decentralisation policies have a number of benefits, including positive impacts on economic growth and the development of innovation. Therefore, based on the experiences of implementing Innov-AL Platform project, the state level representatives have proposed the creation of a Brazilian Forum for Smart Specialisation, aiming to create a decentralised space to discuss – together with national level entities – the smart specialisation strategies in Europe and the knowledge acquired through the project implementation and which are the options, possibilities and process that could be undertaken in each state in order to implement similar / adapted strategies. Further, the Brazilian Forum aims at involving the states that will participate in phase 2 of the Innov-AL project and other Brazilian states that are interested in joining such discussions and might have a space to test and apply locally some of the propositions and ideas acquired in the Forum.</p>
Description of work / tasks to be developed	<p>The Brazilian Forum on Smart Specialisation will be implemented following the tasks described below (already discussed with the participants at the final conference):</p> <ul style="list-style-type: none"> <li>▪ First meeting in Brasilia to be held by MDR with all the representatives of Pará, Paraná and Pernambuco and invited stakeholders / experts from other Ministries and entities, such as IBICT – the Brazilian Information Institute on Science and Technology (expected to take place in May 2019);</li> <li>▪ The group will communicate and exchange readings / results of pilot experiences that might be implemented in the states through the Innov-AL online platform in a dedicated restricted area;</li> </ul>

PROJECT	Brazilian Forum on Smart Specialisation
	<ul style="list-style-type: none"> <li>▪ The meetings will take place four times a year in different Brazilian capitals, in order to cover the different geographic locations;</li> <li>▪ The Forum will define guidelines to adapt and use smart specialisation strategies applied to previously determined states and define a national framework to work with (including in terms of funding) with the support of Dr. Paulo Egler (Expert from IBICT that is developing a study on the adaptation of the concept of RIS3 in Brazil and will present the results of the research in the second meeting of the Forum);</li> <li>▪ The Brazilian Forum will define a list of new members to integrate the group – starting by making sure that at least one state from each administrative region in Brazil is represented (North; North-East; Southeast; South; West; and Central);</li> <li>▪ The results of the first 1 and a half year of functioning of the Brazilian Forum on Smart Specialisation will be presented at the Final Conference of Innov-AL phase 2 and at the EU Week of Regions and Cities in 2020.</li> </ul>
Potential funding sources	<ul style="list-style-type: none"> <li>▪ Direct investment from MDR</li> </ul>
Expected results	<ul style="list-style-type: none"> <li>▪ To create a common space for discussion of decentralisation strategies for innovation and economic growth, focusing more specifically on the smart specialisation strategies</li> <li>▪ To bring more Brazilian states and the Federal Government to discuss and implement pilot testing activities in selected states</li> <li>▪ To serve as a governance and advisory group that is prepared to guide a policy transformation in Brazil by decentralising innovation policies.</li> </ul>

The image features a white background with two abstract, geometric line drawings. A dark blue line forms a large, irregular shape that resembles a stylized 'V' or a diamond with a notch at the top. A green line forms a similar but smaller shape, also resembling a stylized 'V' or a diamond with a notch at the top, positioned below and to the left of the blue shape. The text 'Action Paths' is centered within the blue shape.

# Action Paths

## 5. Action paths

The action paths for the collaboration and implementation of the pilots were defined together with stakeholders from the Brazilian states and corresponding EU regions, individually per collaboration pair, in focus group held during the final conference of the project. The Action paths are presented in the following subsections – detailing the results of the discussions held in Recife.

Nonetheless, it is important to note that the dynamics proposed in each focus group undertaken in the final conference included an open space and brainstorming to the participants to propose new pilot project ideas. Therefore, as the final conference was attended by many local participants and from the Federal Government representatives, many new ideas and inputs were brought into the discussion, and we have reproduced all the contributions in the following tables, in order to further elaborate and shed light on the future of medium and long-term cooperation opportunities.

A process of establishing together a long-term vision, up to the year 2030, was implemented in order to allow the participants to think more strategically about the partnership as well as about long-term development of the sector and regions involved from the Brazilian side.

## 5.1. Pará and North-East Region - Romania

The following table includes the vision statement and action paths for the collaboration between Pará and North-East Romania. The inputs were collected in a focus-group discussion in which participants agreed on a future desired state for the cocoa value chain of the state of Pará and how the collaboration with North-East Romania may facilitate the reaching of the vision.

Table 9: Vision and action path for collaboration between Pará and North-East Romania

Vision			
In 2030 the Transamazonian cocoa value chain will be integrated to global value chain with high added value products			
	Short-term 2 years	Mid-term 5 years	Long-term 10 years
<b>Goals</b>	<ul style="list-style-type: none"> <li>Establish Transamazonian Development Agency for the cocoa value chain (TDA)</li> <li>Establish agenda for technical, scientific, and technological cooperation</li> </ul>	<ul style="list-style-type: none"> <li>Develop new functional cocoa-based nutraceuticals and cosmetics</li> </ul>	<ul style="list-style-type: none"> <li>To improve research and development expertise and infrastructure to produce cocoa-based pharmaceuticals</li> <li>Scale up production and commercialization of nutraceuticals and cosmetics</li> </ul>
<b>Actions</b>	<ul style="list-style-type: none"> <li>Establish the UFPA through UNIVERSITTEC, its technology transfer agency, as the entity in charge of coordinating the process of cooperation with North-East Romania Development Agency (NERDA) until the installation of the TDA.</li> <li>Establish the TDA as a private entity of public interest, not for profit.</li> <li>Cooperate with NERDA focusing on exchange of business and governance models, statutes, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Identify species suitable to production of nutraceuticals</li> <li>Identify production scale necessary to supply the industry</li> <li>Develop pilot scale</li> <li>Incentivize thesis/dissertation work on research aiming at development of new products</li> <li>Identify the expertise connected to the topic: biotechnology, food engineering, chemistry, etc.</li> </ul>	<ul style="list-style-type: none"> <li>Identify expertise Identify the expertise connected to the topic: pharmacy, biotechnology, food engineering, chemistry, etc.</li> <li>Incentivize thesis/dissertation work on research aiming at development of new products.</li> <li>Celebrate partnerships with companies for joint R&amp;D.</li> <li>Develop marketing strategies to improve commercialization of nutraceuticals and cosmetics,</li> </ul>

Vision			
In 2030 the Transamazonian cocoa value chain will be integrated to global value chain with high added value products			
	Short-term 2 years	Mid-term 5 years	Long-term 10 years
	<ul style="list-style-type: none"> <li>Agenda for technical, scientific and technological cooperation under design will include to be based on common areas of interest under discussion, which involve soil management, traceability of quality of products, diversification of use, and marketing, including development of geographical denomination agenda.</li> </ul>	<ul style="list-style-type: none"> <li>Implement seal of geographical denomination and process for qualifying of producers/products.</li> </ul>	<ul style="list-style-type: none"> <li>expanding markets, product line, and partnerships.</li> <li>Identify portfolio of opportunities for business incubation and startups.</li> </ul>
Actors	<p>From Brazil</p> <ul style="list-style-type: none"> <li>Federal University of Pará (UFPA)</li> <li>Technological Park</li> <li>Federation of Agriculture Industry of Para (FAEPA)</li> <li>Ministry of Regional Development (MDR)</li> <li>Management Committee of the Transamazonian Pole</li> <li>Executive Commission of the Plan for Cocoa Farming (CEPLAC)</li> <li>Embrapa Amazônia Oriental</li> <li>Banco da Amazônia</li> <li>Technical and Rural Extension Enterprise (EMATER)</li> </ul> <p>From Romania</p> <ul style="list-style-type: none"> <li>North-East Romania Region (NER)</li> </ul>	<p>From Brazil</p> <ul style="list-style-type: none"> <li>Centre for Innovation and Excellence of the Cocoa Value Chain (under construction)</li> <li>Cacauway &amp; cooperatives</li> <li>UFPA/Incubator</li> <li>Technological Park</li> <li>Cosmetic companies</li> <li>Fund for Regional Sustainable Development of Xingu (PDRSX)</li> <li>Banco da Amazônia</li> <li>Funcacau</li> <li>CNPq</li> <li>Research Support Foundation of the State of Pará (FAPESPA)</li> <li>Brazilian Development Bank (BNDES)</li> </ul> <p>From Romania</p> <ul style="list-style-type: none"> <li>NERDA</li> <li>University of Suceava</li> </ul>	<p>From Brazil</p> <ul style="list-style-type: none"> <li>UFPA</li> <li>Banco da Amazônia</li> <li>Centre for Innovation and Excellence for Cocoa</li> <li>UFPA/Incubator</li> <li>Technological Park</li> <li>Cosmetic companies</li> <li>PDRSX</li> <li>Pharmaceutical companies</li> <li>Banco da Amazônia</li> <li>Funcacau</li> <li>CNPq</li> <li>FAPESPA</li> <li>BNDES</li> <li>Funding Authority for Studies and Projects (FINEP)</li> <li>company/ies</li> </ul>

<b>Vision</b> In 2030 the Transamazonian cocoa value chain will be integrated to global value chain with high added value products			
	<b>Short-term</b> <b>2 years</b>	<b>Mid-term</b> <b>5 years</b>	<b>Long-term</b> <b>10 years</b>
	<ul style="list-style-type: none"> <li>▪ North-East Romania Development Agency (NERDA)</li> <li>▪ University of Suceava</li> <li>▪ University of Iași, Romania</li> <li>▪ Vegetable Research and Development Station Bacau</li> </ul>	<ul style="list-style-type: none"> <li>▪ Vegetable Research and Development Station Bacau</li> <li>▪ Companies</li> </ul>	From Romania <ul style="list-style-type: none"> <li>▪ North-East region of Romania</li> <li>▪ NERDA</li> <li>▪ University of Suceava</li> <li>▪ Vegetable Research and Development Station Bacau</li> <li>▪ Companies</li> <li>▪ European Union</li> </ul>
<b>Expected outcomes</b>	<ul style="list-style-type: none"> <li>▪ Implementation of STI agenda: MoU and plan for exchange of personnel (PhD students, researchers, etc) - funding via ERASMUS and EU Framework Programs</li> <li>▪ Establishment of Research and Innovation Agency</li> </ul>	<ul style="list-style-type: none"> <li>▪ Scientific publications: thesis, dissertations, articles</li> <li>▪ Increase of output and quality improvement of cocoa for food and cosmetics</li> <li>▪ Homologation of products by official organizations</li> <li>▪ Patent</li> <li>▪ Geographic denomination seal “Cocoa of the Transamazonia”</li> </ul>	<ul style="list-style-type: none"> <li>▪ Homologation of pharmaceutical applications of cocoa</li> <li>▪ Scale up production capacity and commercialization of cocoa-based nutraceuticals and cosmetics.</li> </ul>

## **A view on the implementation process**

The focus group was composed by two members of the program National Integration Routes of MDR, a consultant in regional development and smart specialization, four delegates from the Transamazonian region, and the two delegates from NERDA.

The establishment of the vision for the cooperation was a relatively easy process. As the agents from the Brazilian side have been heavily engaged in the discussions fora related to the cocoa value chain (Cocoa Route, PDRSX, Funcacau, international cooperation, etc.) they are aware of the growth potential of the sector and the region and dared to dream bold. Also, the short-term goals and actions which they have already been discussing with NERDA was a more tangible topic for discussion. Both medium- and long-term goals were also easy to establish, although the participants had more difficulties to engage in the discussion of the actions pertaining to them. The political challenges and low level of engagement of the actors in the territory were main subjects for side talks among the Brazilian participants. NERDA's representatives were more aware of the necessary actions and the role of actors to implement them.

The realization of the vision designed by the participants may prove more challenging than the participants may be aware because of the current development conditions of the Transamazonian region and the sector in there. These challenges are related to the lack of absorptive capacity among the producers that was verified during the field research implemented in March 2018; low level of governance and engagement of actors in spite of the many forums and organizations that bring together stakeholders of the sector; and lack of infrastructure (roads, communications). As there is a need of high level of investments, both in human and physical capital, speedy actions should be implemented in order to improve the territorial conditions that otherwise may hinder the development of the sector. Effort and commitment from all, local and federal governments, as well as organizations such as the Funcacau, the Cocoa Forum, the cocoa producers, funding bodies, etc. are needed.

The cooperation with NERDA may be extremely beneficial for Pará, and especially if a similar agency is established specifically for the Transamazonian region. The role of the agency itself and mostly the working ways it operates are the good practices necessary in that territory. There is a need for an organization that coordinates, engages stakeholders, establish long-term plans and has the capacity to operate among different political settings. For the technical cooperation to

take place, the actors have already been mapped and the actions need to be better explicated and followed up running the risk of failing from the beginning if political commitment is not agreed upon. On a positive note, the pairing regions have already established a tacit commitment to working together and implementing the action plan.

## 5.2. Paraná and Wielkopolska - Poland

The following table includes the vision statement and action paths for the collaboration between Paraná and Wielkopolska. The inputs were collected in a focus-group discussion in which participants agreed on a future desired state for the cocoa value chain of the state of Paraná and how the collaboration with Wielkopolska may facilitate the reaching of the vision.

Table 10: Vision and action path for collaboration between Paraná and Wielkopolska

Vision			
To ensure a stable cooperation among the two regions in order to improve the capacities of agri-food sector and its linked activities, especially considering the ICT sector applicability in agri-food 4.0 and the renewable energy sector.			
	Short-term 2 years	Mid-term 5 years	Long-term 10 years
Goals	<ul style="list-style-type: none"> <li>Renew the Framework Agreement between Wielkopolska and Paraná</li> </ul>	<ul style="list-style-type: none"> <li>Bi-regional cooperation to improve the capacity of human resources in the sector through certifications schemes in organic production</li> </ul>	<ul style="list-style-type: none"> <li>Creation of an international advanced biogenetic laboratory shared by Paraná and Wielkopolska.</li> </ul>
Actions	<ul style="list-style-type: none"> <li>To deepen in the specific collaboration niches between the two regions in the scope of this Framework Agreement</li> <li>Mission composed of the appropriate producers to visit Poland in order to exchange experiences.</li> <li>Identify the need of universities and companies on both regions (cross-regional necessities)</li> <li>Meetings with associations representing agri-food systems in both regions.</li> </ul>	<ul style="list-style-type: none"> <li>Establishment of stable working groups focused on identification, development and funding searching in the following common areas:               <ul style="list-style-type: none"> <li>Rural connectivity</li> <li>Product diversification (added value niches)</li> <li>Innovative aquaculture</li> <li>Organisation of business rounds (business to business) between Polish and Brazilian producers and suppliers.</li> </ul> </li> </ul>	<ul style="list-style-type: none"> <li>Development of joint specialised courses for students between Paraná and Wielkopolska universities in fields of common interest.</li> <li>Development of “experimental farms” with support of research institutions and producers</li> </ul>

<b>Vision</b> To ensure a stable cooperation among the two regions in order to improve the capacities of agri-food sector and its linked activities, especially considering the ICT sector applicability in agri-food 4.0 and the renewable energy sector.			
	<b>Short-term</b> <b>2 years</b>	<b>Mid-term</b> <b>5 years</b>	<b>Long-term</b> <b>10 years</b>
<b>Actors</b>	<ul style="list-style-type: none"> <li>▪ Governments of both regions and public entities responsible for regional development.</li> <li>▪ A selection of main producers and associations in the agri-food sector.</li> <li>▪ Universities and agri-food associations and businesses</li> <li>▪ Main agri-food associations and cooperatives</li> </ul>	<ul style="list-style-type: none"> <li>▪ Associations and cooperatives from the agri-food sector, and universities and education centres</li> <li>▪ A selection of main businesses in the sector from Paraná and Wielkopolska</li> </ul>	<ul style="list-style-type: none"> <li>▪ Universities, IAP, Technical and Rural Extension Enterprise (EMATER)</li> <li>▪ Universities and research centres</li> <li>▪ Producers</li> </ul>
<b>Expected outcomes</b>	<ul style="list-style-type: none"> <li>▪ Deep definition of areas for collaboration in the near future (medium and long term)</li> <li>▪ Organising a stable collaboration between the two regions in the framework of the agreement</li> <li>▪ A deep knowledge of mutual needs of both academia and businesses of both regions</li> </ul>	<ul style="list-style-type: none"> <li>▪ Increase the export capabilities of local products leveraging the certification schemes they include.</li> <li>▪ More efficient productive systems (processes) and higher quality levels of products.</li> </ul>	<ul style="list-style-type: none"> <li>▪ New product varieties (organic, functional, with more transformation and added value)</li> <li>▪ New capacities for HHRR</li> </ul>

## **A view on the implementation process**

The focus group was composed by the delegation of the Economic Department of the Wielkopolska Marshall Office (2 representatives) and the representatives of Paraná authorities (5 in total), as well as with a representative from the National Government and an innovation expert from the International Urban Cooperation (IUC) Programme.

The discussion started with the identification of the common vision to 2030 and lasted nearly  $\frac{3}{4}$  of the total time devoted to the working group session. It was said that it is quite complicated even trying to prospect about the fields of interest in the medium term. Nevertheless, regarding to the idea of bioregional collaboration both regions agreed that:

- a) Wait for 2020 to renew the Framework Agreement both Regions used to sign every 5 years, using the time until that date to deepen in specific areas of collaboration not only in economic terms, but in social, environmental, cultural, etc. terms. This Framework is a very broad one at highest political level that could facilitate the execution of the actions addressed for the medium and long term.
- b) In the meanwhile, try to exploit the possibilities under “soft” collaboration activities such as: mission and visits to Wielkopolska (the Marshall office can facilitate and contact and meetings between companies and other agents of the innovation system from the Brazilian counterparts), business rounds, prior analysis and share of businesses from the private sector and the academia, cocreating a roadmap for the medium and long term in the fields of common interest from this project (agri-food with ICT and renewable energies from neutral carbon technological solutions).
- c) To involve new agents from the private sector (associations, cooperatives, most representative businesses) and the research and education sector (universities, research centres both public and privates, etc.).
- d) To differentiate two levels of cooperation: from one side, that of the process of how to build the RIS3 and its governance (including aspect related to the EDP on the field, strengthening of governance mechanisms, coordination and articulation of agents, etc.); from the other side, that of collaboration in very specific pilot projects like those proposed during the last meetings (soft landing with the technology park of Poznan; implementation of the EDP in Paraná from the experience of Wielkopolska; participation of Wielkopolska representatives in agri-food related

events in Paraná; bilateral cooperation for specific institutions such as Universities of Paraná and Wielkopolska, Poznan Supercomputing Centre with the ICT Governance ambience; application of ICT sector solutions to agri-food, renewable energy and health; as identification of consortia and calls).

### 5.3. Pernambuco and Tolna County - Hungary

The following table includes the vision statement and action paths for the collaboration between Pernambuco and Tolna County. The inputs were collected in a focus-group discussion in which participants agreed on a future desired state for the cocoa value chain of the state of Pernambuco and how the collaboration with Tolna County may facilitate the reaching of the vision.

Table 11: Vision and action path for collaboration between Pernambuco and Tolna County

Vision			
To reach structured cooperation models that mutually benefit the productive sector, the academia and the institutions.			
	Short-term 2 years	Mid-term 5 years	Long-term 10 years
<b>Goals</b>	<ul style="list-style-type: none"> <li>Exchange of experiences and good practices on the winemaking, tourism and multi-level governance</li> </ul>	<ul style="list-style-type: none"> <li>Exchange of experiences and good practices on the production of wine and grapes, tourism and sectoral competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>To promote new market opportunities for the wines in San Francisco Valley.</li> </ul>
<b>Actions</b>	<ul style="list-style-type: none"> <li>Develop a marketing and tourism plan for the San Francisco Valley</li> <li>Promote mobility programmes for sector practitioners to foster knowledge exchange</li> <li>Create multi-level governance schemes</li> </ul>	<ul style="list-style-type: none"> <li>Exchange of experiences and good practices on quality control and agrotoxic residues;</li> <li>Implement and evaluate the resistant and adaptation to climate change of Hungarian grape varieties in Pernambuco;</li> <li>To increase the number of tourists visiting San Francisco Valley with a focus on enotourism and rural tourism;</li> </ul>	<ul style="list-style-type: none"> <li>Joint characterisation of physical and chemical and sensorial properties of the grape varieties in each region;</li> <li>Identification of different cultivation methods for juice and wine;</li> <li>Analyse the varieties of each region in terms of irrigation systems adapted to climate change;</li> <li>Fermentation tests;</li> <li>Validate tests and research within the producers;</li> </ul>

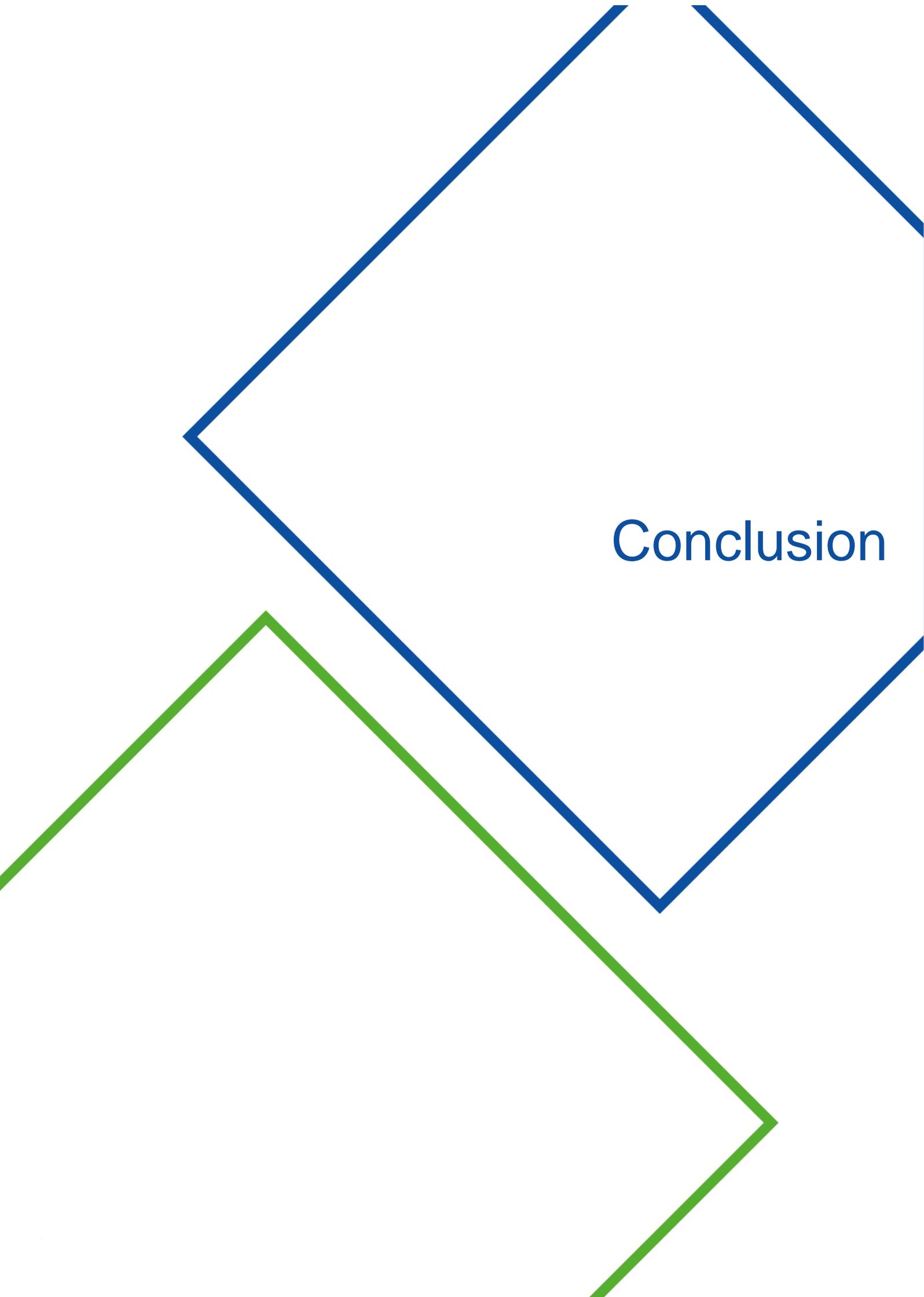
<b>Vision</b> To reach structured cooperation models that mutually benefit the productive sector, the academia and the institutions.			
	<b>Short-term</b> <b>2 years</b>	<b>Mid-term</b> <b>5 years</b>	<b>Long-term</b> <b>10 years</b>
		<ul style="list-style-type: none"> <li>Exchange of experiences and good practices to reduce the production costs and increase the competitiveness</li> </ul>	
<b>Actors</b>	<ul style="list-style-type: none"> <li>Universities;</li> <li>EMBRAPA;</li> <li>Funding agencies (FACEPE; BNDES, BNB);</li> <li>Producers associations in both Tolna County and Pernambuco</li> </ul>	<ul style="list-style-type: none"> <li>Universities;</li> <li>Research institutes: EMBRAPA; ITEP;</li> <li>Funding agencies (FACEPE; BNDES, BNB);</li> <li>Producers associations in both Tolna County and Pernambuco;</li> <li>Entrepreneurs;</li> <li>SUDENE;</li> <li>Government of Pernambuco - Secretary of Science and Technology</li> </ul>	<ul style="list-style-type: none"> <li>Universities;</li> <li>Research institutes: EMBRAPA; ITEP;</li> <li>Funding agencies (FACEPE; BNDES, BNB);</li> <li>Producers associations in both Tolna County and Pernambuco;</li> <li>Entrepreneurs;</li> <li>SUDENE;</li> <li>Government of Pernambuco - Secretary of Science and Technology</li> </ul>
<b>Expected outcomes</b>	<ul style="list-style-type: none"> <li>Academic and research level cooperation and exchange</li> <li>Strengthen the connections between business and policy level through a more direct dialogue flow</li> </ul>	<ul style="list-style-type: none"> <li>Signing of MoU between Universities and Research Centres</li> <li>Develop a plan for exchange of personnel (PhD students, researchers, etc) - ERASMUS and H2020 programs</li> </ul>	<ul style="list-style-type: none"> <li>Achieve advanced research results concerning technical specificities and adaptation of varieties</li> <li>Validate joint production methods to increase productivity in each region</li> <li>Create better conditions for both regions in terms of wine tourism and rural tourism and enhance the overall marketing approach of the two regions</li> </ul>

### **A view on the implementation process**

The focus group involving Pernambuco and Tolna County started with the definition of the common vision for strategic cooperation in a long-term perspective. The second step was to re-discuss with the invited participants ideas for pilot projects, starting with the short-term initiatives. Many new initiatives and ideas were proposed by the attendees of the conference that were not involved in the definition of the pilot projects during the project implementation. All the ideas were discussed and were received with enthusiasm from the representatives of Pernambuco and Tolna.

The major conclusion of the action path exercise is that they are more ready to start the short-term cooperation at the academic / research level, which means focusing on exchange of researchers and production of collaborative research together with Universities and Research Centres.

Although they have defined research as the short-term cooperation priority area, they have the intention to enhance the development of institutional cooperation programmes and potential MoU and also to strengthen the wine sector throughout a private sector collaboration in a medium to long-term perspective.

The image features two large, stylized geometric shapes. The upper shape is a blue-outlined diamond, and the lower shape is a green-outlined diamond. The word "Conclusion" is written in a blue, sans-serif font within the blue diamond. The background is white.

Conclusion

## 6. Conclusion

The current report presented recommendations, pilot projects and action paths for the continuation of the collaboration between the Brazilian and European regions that paired along the duration of the project. Following an assessment of the Brazilian regions, the candidacy of interested European regions in cooperation with them and a technical visit to European, the cooperation has gained scope and is expected to consolidate with the implementation of the pilots and actions.

The different activities of the project allowed for understanding of the local innovation systems of each one of the Brazilian regions involved. The experiences with the local productive arrangements (APLs) are the closest to the regional innovation systems approach utilized in Europe and, although Paraná and Pernambuco have been involved in projects focusing on smart specialization, it is to be said that the experiences have not been as comprehensive as they have been done in Europe. It is important to acknowledge that all participants of the project are aware of the importance of innovation for competitiveness and how a proper governance structure and involvement of local stakeholders, composing the quintuple-helix of government, universities, industry, society and funding, are fundamental for the emergence and survival of a sector/region.

Expectations and specific plans regarding the cooperation vary per state but governance and stakeholders engagement is a common topic to all Brazilian states. They all agree they can learn from European pairing regions in this regard besides the technical collaboration. To optimize the learning process, it would be beneficial if the Brazilian regions had a platform to share their own knowledge and experiences among themselves. The suggested Forum on smart specialisation can be the mechanism to facilitate the knowledge exchange as well as supporting the conceptual development of a theory of smart specialisation adapted to Brazilian context, considering its idiosyncrasies, including inter- and intra-regional disparities and climate conditions.

A coordinated approach at federal, state and local/regional levels will facilitate learning, dissemination and replication of S3 in the Brazilian territory. The new ministry in charge of regional and urban development, MDR, is in a good position to implement the S3 in Brazil and expand collaboration with the EU for that purpose. The window of opportunity is there with the new planning period for 2020-2023 and the new policy for regional development. The necessary protagonist role of MDR has to be coupled with the involvement of other ministries in charge of science and innovation policies, sectoral-specific support and industrial development and trade. The program of the National Integration Routes is the most likely space to seek this alignment.

As for the Brazilian states involved in the cooperation, similar process of rethinking and strategic planning their regional development and possibly evolve towards adoption of S3 as guiding principle. As the innovation actors are mapped, capacity building activities should be designed with a view of promoting their integral commitment to regional development goals, in spite of the political elements that are supposed to exist also at local level. Denial about political (party-related) processes and their influence on territorial development, rather the strengthening of local organizations should be the focus in order to empower local actors to raise their commitment with the strategies and their sustainability.

As for the European regions, most likely they will face more challenges in the implementation of the cooperation compared to working together with European regions. As expressed, the representatives of the Brazilian regions, the political transition, and political influence in the territories, which impacts decision-making processes and expectation of gains, may be the main element affecting the timely implementation of actions and sustainability of the cooperation itself. This is to emphasize the cooperation and the learning exchange deriving from it, involves also cultural exchanges.