



## Discussion paper on Brazil

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**Abstract:** The discussion paper provides inputs for a policy discussion on cluster cooperation and policy arrangements on clusters with Brazil. The report contains information on existing EU-Brazil cluster collaboration and good practices, which can be good practice examples for other clusters from Europe in their collaboration approach towards Brazil.

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# 1. Objective of the report

This document is intended to provide an overview of the current cooperation activities between European and Brazilian clusters, as well as the nature of the collaboration between clusters and other types of research and innovation (R&I) actors. The document provides examples of good practices to showcase different types of collaboration. Furthermore, it is intended to provide an analysis of the potential for cluster cooperation in the future.

This Discussion Paper has been elaborated to serve as an input and preparatory paper to the policy discussions / policy meetings between DG Internal Market, Industry, SMEs and Entrepreneurship of the European Commission / EASME Executive Agency for Small and Medium-sized Enterprises and policy makers from Brazil. The background knowledge and good practices could be used in policy discussions to illustrate the vitality of cluster cooperation, the impact of international inter-clustering actions and the importance of structuring this through new policy initiatives.

## 2. Existing EU-Brazil cluster cooperation

The relevance of the Brazilian economy in Latin America and in the world, the strong economic ties between Brazil and the European Union (EU), and the existing national policies supporting cluster development and their internationalisation, present significant opportunities to build ties with Brazilian industry clusters.

The diplomatic relations between the EU and Brazil started in 1960 and have strengthened over time, culminating in 2007 with the establishment of the EU-Brazil Strategic Partnership that covers economic growth, cooperation on key foreign policy issues and global challenges<sup>1</sup>. This partnership clearly establishes the foundation for the development of EU-Brazil cluster cooperation.

Biotechnology, Renewable Energy and Information and Communication Technology (ICT) are the industry sectors that present significant opportunities for technology, innovation and business cooperation between EU and Brazilian clusters. More information about the three sectors is included in the updated Preparatory Briefing document developed by the ECCP.

### 2.1. Policy dialogue on cluster cooperation

The EU and Brazil have focused on improving the framework conditions for cluster cooperation<sup>2</sup>. Therefore, both regions have agreed on establishing a dialogue on cluster policies in order to promote mutual understanding and enhance the exchange of information on clusters.

<sup>1</sup> EEAS, Delegation of the European Union to Brazil, Brazil and the EU, 2016.

[http://eeas.europa.eu/brazil/index\\_en.htm](http://eeas.europa.eu/brazil/index_en.htm)

<sup>2</sup> <file:///C:/Users/danielabcoutinho/Downloads/Memorandum%20of%20understanding%20on%20smes-innovation-competitiveness-clusters%20en%2022-12-2011.pdf>

In this context, to promote small and medium-sized enterprises' (SMEs) competitiveness in the global market through clusters, in 2011 the *Ministério do Desenvolvimento, Indústria e Comércio Exterior* (MDIC - Ministry of Development, Industry and Foreign Trade) of the Federative Republic of Brazil signed a Memorandum of Understanding (MoU) with the European Commission (EC) to enhance bilateral cooperation. Both parties have committed to two main objectives: to facilitate the exchange of information on clusters, innovation and SME policies through the establishment of communication channels; and to improve the framework conditions of clusters and SME policy initiatives by reducing the administrative burden, increasing access to finance, opening access to international markets and removing barriers to international trade<sup>3</sup>. Building on this MoU, the *Arranjo Produtivo Local* Permanent Working Group (GTP-APL) signed a Clusters Cooperation Agenda (CCA) with the European Cluster Collaboration Platform (ECCP)<sup>4</sup>. This initiative was designed to strengthen business, research and technological cooperation and to promote SME internationalisation by encouraging clusters from Brazil and the EU to collaborate. In December 2013, a new CCA was signed between GTP-APL and the ECCP. The new CCA placed emphasis on EU-Brazil cluster internationalisation and collaboration in the field of biotechnology and personalised medicine, and EU-Brazil cluster internationalisation and collaboration through SMEs of other emerging industries such as ICT, bio-economy (green chemicals, biomass, cosmetics, etc.), renewable energy and energy efficiency<sup>5</sup>.

The GTP-APL is the main body responsible for the APLs and, therefore, is grounded in the different policies related to the APLs, such as research, development, technology and innovation (RDTI), regional development, and entrepreneurship. Thus, the GTP-APL works at local, regional and national level, both with emerging and mature clusters. Moreover, the GTP-APL is responsible for defining a cross-sectoral management model for federal government actions and developing general guidelines for coordinating government actions to support APLs throughout the country<sup>6</sup>.

In the meantime, Brazil established the APL Observatory (OBAPL), which is the official database of the APLs, inspired on the ECCP format. The OBAPL is a mapping tool that provides information regarding the environment, location and sectors of the Brazilian cluster communities. According to the OBAPL, in 2017 there were 774 APLs mainly concentrated in the southern regions of the country. In this context, the OBAPL is well-positioned to facilitate Brazil-EU cluster mutual visibility<sup>7</sup>.

The EU-Brazil Agreement for Scientific and Technological Cooperation<sup>8</sup>, which was established in 2007 and renewed in 2012, aims to encourage, develop and facilitate cooperative activities in areas of common interest by carrying out and supporting scientific and technological R&D activities. Thirteen areas of common interest have been identified by the agreement: biotechnology; information and communication technologies (ICT); bio-informatics; space; micro/nanotechnologies; materials research; clean technologies; sustainable management and use of environmental resources; biosafety;

<sup>3</sup> [www.ec.europa.eu/DocsRoom/documents/](http://www.ec.europa.eu/DocsRoom/documents/)

<sup>4</sup> [http://portalapl.ibict.br/menu/itens\\_menu/gtp\\_apl/gtp\\_apl.html](http://portalapl.ibict.br/menu/itens_menu/gtp_apl/gtp_apl.html)

<sup>5</sup> [www.clustercollaboration.eu/sites/default/files/international\\_cooperation/mou-brazil-english\\_2013.pdf](http://www.clustercollaboration.eu/sites/default/files/international_cooperation/mou-brazil-english_2013.pdf)

<sup>6</sup> <http://portalapl.ibict.br/apls/>

<sup>7</sup> [www.observatorioapl.gov.br/](http://www.observatorioapl.gov.br/)

<sup>8</sup> This agreement opened the way for Brazil to participate in the European Union's Framework Programmes for research.

health and medicine; aeronautics; metrology, standardisation and conformity assessment; and human science<sup>9</sup>.

The Cooperation Arrangement between the EC's Joint Research Centre (JRC) and the Brazilian Ministry of Science, Technology and Innovation (MCTI) was signed in 2013 during the 6<sup>th</sup> EU-Brazil Summit with the aim to strengthen and further structure scientific and other cooperative activities in the areas of: disaster prevention and crisis management; climate change and sustainable management of natural resources and ecosystem services; energy, including bioenergy and smart grids; food security; bio-economy; ICT; as well as nanotechnologies<sup>10</sup>.

In 2016, the EC and Brazilian National Council of State Funding Agencies (CONFAP) signed an Implementing Arrangement that allows Brazilian scientists to join research teams funded by the European Research Council (ERC). Under this agreement, Brazilian researchers are able to undertake short or long-term research visits, and collaborate with ERC-funded teams across Europe<sup>11</sup>.

In 2017, the EU, Brazil and South Africa signed the "Belém Statement on Atlantic Research & Innovation Cooperation". This agreement aims to improve the scientific knowledge of marine ecosystems and the connections between oceans and climate change, food and energy systems, and the dynamics of the Atlantic Ocean and its interconnected circulation systems from Antarctica to the Arctic<sup>12</sup>.

Furthermore, the EU and Brazil have also been cooperating on the development of R&D activities. Thus, in May 2018, the EC, the Brazilian National Council for Scientific and Technological Development, the Brazilian Funding Agency for Studies and CONFAP signed an administrative arrangement on mechanisms to support EU-Brazil cooperation activities in R&I. This agreement establishes a co-funding mechanism for Brazilian participation in Horizon 2020, extending to the entire country the co-funding that was previously only available to eight Brazilian states<sup>13</sup>.

The Increasing International STI Cooperation Between Brazil and the EU (INCOBRA) and European Network of Research and Innovation Centres and Hubs, Brazil (ENRICH in Brazil) are two key examples of projects funded by the European Framework Programme Horizon 2020 that can foster EU-Brazil cluster cooperation. INCOBRA's objective is to focus, increase and enhance R&I cooperation activities between Brazilian and EU R&I actors, so that both regions get the best value out of the mutual cooperation. Thus, INCOBRA's main activities include events and workshops that can foster networking between EU and Brazilian clusters<sup>14</sup>.

In addition, ENRICH in Brazil aims to strengthening cooperation in research, innovation, and business between Brazil and Europe by exchanging innovative practices, experience, and knowledge between all involved. ENRICH in Brazil's goal is to become a hub and contact point for European and Brazilian Science, Technology, and Innovation (STI) actors aiming at bilateral cooperation, as soon as 2021.

<sup>9</sup> <http://ec.europa.eu/world/agreements/prepareCreateTreatiesWorkspace/treatiesGeneralData.do?step=0&redirect=true&treatyId=2041>

<sup>10</sup> <http://ec.europa.eu/research/iscp/index.cfm?amp;pg=brazil>

<sup>11</sup> <http://ec.europa.eu/research/iscp/index.cfm?amp;pg=brazil>

<sup>12</sup> <http://ec.europa.eu/research/iscp/index.cfm?amp;pg=brazil>

<sup>13</sup> <http://ec.europa.eu/research/iscp/index.cfm?amp;pg=brazil>

<sup>14</sup> [www.incobra.eu/](http://www.incobra.eu/)

Therefore, ENRICH in Brazil can represent a key instrument for EU clusters to cooperate with Brazilian organisations, since its service portfolio includes soft-landing (workspace and infrastructure), business roundtables and matchmaking events, workshops and delegation visits<sup>15</sup>.

## 2.2. Cluster to cluster cooperation

The EU has a strategic interest in stimulating C2C (Cluster to Cluster) cooperation with Brazilian clusters in order to increase the competitiveness of European clusters and their SMEs, and foster important international partnerships. In this context, the EC is supporting C2C cooperation initiatives between the EU and Brazil<sup>16</sup>, which aim at bringing together clusters from different sectors to promote the creation of strong international networks.

The organisation of matchmaking events supported by the ECCP, as well as the matchmaking missions organised by the Low Carbon Business Action in Brazil (LCBA), have been two of the main tools to foster collaboration between EU and Brazilian clusters. In 2013, the first EU-Brazil matchmaking mission was organised by the ECCP to promote business, research and technological cooperation between EU and Brazilian clusters within the biotechnology sector. In 2016, the EU-Brazil Cluster & Business Matchmaking Event took place within the scope of the Pollutec Fair 2016 in Lyon, France. The event included a European and Brazilian delegation composed of organisations from technology fields in support of Energy Efficiency in Buildings, Solid Waste Management, Renewable Energy (solar, biomass) and Biogas<sup>17</sup>. In addition, several LCBA matchmaking events were held in Brazil. In November 2017, LCBA organised the Matchmaking Mission: Biogas and Solid Waste Management in line with the event Waste Expo 2017. The event aimed to identify opportunities for EU SMEs in the Brazilian market and promote the establishment of cooperation agreements in the fields of solid waste management, biogas production, biogas use and waste-to-energy<sup>18</sup>.

Brazil does not have a specific cluster initiative. The GTP-APL, which is coordinated by the Ministry of Development, Industry and Foreign Trade (MDIC), is the main body governing the APLs. In 2017, there were 774 APLs in Brazil focused on 43 different sectors. The APLs are mainly concentrated in Brazil's southern regions. Therefore, the large number of APLs, the wide range of sectors, as well as their distribution across the country, makes identifying innovative companies difficult. In addition, the number of innovative firms within the APLs is quite low; nevertheless, the potential for cooperation on technology transfer can be high.

Around 60 clusters and SMEs, both European and Brazilian, took part in the EU-Brazil Cluster Matchmaking Event in Lyon (France). A follow up survey of event participants showed some European clusters initiated cooperation with Brazilian counterparts (not all of them clusters). In the context of the matchmaking mission, the Cleantech & Energy Innovation Cluster (CLEVER) from Italy was very active in establishing three cooperation agreements with Brazilian clusters, namely APL Polo Naval e de Energia do Rio Grande, Technology Park Sao José dos Campos, and the Brazilian Institute of

<sup>15</sup> <http://brazil.enrichcentres.eu/>

<sup>16</sup> <http://www.sectorialogues.org/projects/unio-europeia-e-brasil-cooperacao-cluster-x-cluster>

<sup>17</sup> <https://www.clustercollaboration.eu/event-calendar/eu-brazil-cluster-business-matchmaking-event>

<sup>18</sup> [www.clustercollaboration.eu/event-calendar/lcba-matchmaking-mission-biogas-and-solid-waste-management](http://www.clustercollaboration.eu/event-calendar/lcba-matchmaking-mission-biogas-and-solid-waste-management)



Information in Science and Technology (IBICT). The collaborations aimed essentially at sharing knowledge, exchanging information, developing joint R&D activities, promoting technology transfer, and establishing business contacts among members.

CLEVER's initial objective involving collaboration with APL Polo Naval e de Energia of Rio Grande was to identify its needs in order to set a technology offer. In the case of Technology Park Sao José dos Campos, the goal is to stimulate networking among members and identify cooperation opportunities through exchanging portfolios of companies; while the cooperation with IBICT aimed at providing access to information and stakeholders in the logistics and transport sector within the country.

Aria Normandy (France) also established cooperation with the Brazilian firm ENGPISO for the development of R&D activities. Besides increasing the business contacts in Brazil that might lead to new business in the country, the main objective of this cooperation is to facilitate technology transfer and exchange of information involving waste and recycling, as well as biomass.

Currently, there is one second generation European Strategic Cluster Partnership Going International (ESCP-4i) that targets Brazil, namely New Frontiers in Food Fast Forward (NF4). The NF4 project is an internationalisation fast track accelerator for new frontiers innovation-intensive food SMEs, powered by a 5-Food Clusters alliance: Clusaga (ES); Food Valley (NL); Valorial (FR); Vitagora (FR) and Wagrallim (BE), embedded in the successfully defined roadmap of the New Frontiers in Food initial partnership. This project aims to promote cooperation activities with Brazil, which are expected to include a matchmaking event in São Paulo (Brazil)<sup>19</sup>.

Moreover, the EU-Brazil Sector Dialogues Support Facility is a cooperation instrument aimed at reinforcing the strategic partnership between the EU and Brazil based on exchange of knowledge, experiences and best practices at a technical and political level, around key areas of interest for both sides. This Facility, funded by the EU, is jointly coordinated by Brazil's Ministry of Planning Development and Management, the Ministry of Foreign Affairs and the Federal Government. In this context, the EU-Brazil Sector Dialogues Support Facility supported the development of a study to map clusters in both regions, as well as a minimum of five practical partnership possibilities. The outcomes of this study should be instrumental to bringing EU-Brazil C2C cooperation to a higher level alongside with COSME-programme cluster partnerships going international<sup>20</sup>.

The Enterprise Europe Network (EEN) has two contact points in Brazil, namely in the Brazilian Institute of Information in Science and Technology and in the National Confederation of Industries of Brazil. The EEN contact points help businesses with advice and support the development of international partnerships, which can represent an opportunity for promoting EU-Brazil cluster cooperation<sup>21</sup>.

In addition, the Low Carbon Business Action (LCBA) in Brazil, an EU-funded initiative that supports European-Brazilian business partnerships on low carbon and resource efficiency projects, promoted several matchmaking events in Brazil and Europe that resulted in the signing of 640 business

<sup>19</sup> <https://www.clustercollaboration.eu/escp-profiles/nf4>

<sup>20</sup> <http://www.sectordialogues.org/projects/unio-europeia-e-brasil-cooperacao-cluster-x-cluster#>

<sup>21</sup> <https://een.ec.europa.eu/about/branches/brazil>

partnership agreements of which 90 projects were selected to receive technical assistance to develop commercially viable results and to facilitate their access to green funds<sup>22</sup>.

In summary, there are important opportunities for EU companies, in particular engineering and equipment export companies, in regard to technology transfer, business cooperation and general access to the Brazilian market.

### 3. Good practices / Success stories related to cluster cooperation

As mentioned in the previous section, EU-Brazil C2C cooperation is still in a preliminary or low scale stage, although the completed matchmaking events (organised by the ECCP and LCBA) are instrumental to extending bilateral cluster interaction that should bring interesting results in the mid-term.


Therefore, and aiming to provide further context on the level and effectiveness of cooperation that can be established with Brazilian entities, three success stories of cooperation between Brazilian clusters and EU projects or EU clusters are highlighted below. The success stories include information on: the sector and stakeholders concerned; the process that has led to cooperation; the policy support; common activities; and the outcome of the cooperation. The information was collected through a literature review and interviews with the relevant organisations.

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<sup>22</sup> <http://lowcarbonbrazil.com.br/index.php>



### 3.1. Success story 1: Porto Digital and 7 EU partners under INCOBRA project

| Cooperation between Porto Digital and 7 EU Partners under INCOBRA project   |   |
|---|---|
| <p><b>Partners:</b></p> <ul style="list-style-type: none"><li>• Porto Digital (Recife, Brazil), Brazilian ICT cluster<sup>23</sup></li><li>• 7 EU partners: Centre for Social Innovation (Austria), European Business Network (EBN), Fraunhofer ISI (Germany), International Association of Science Parks and Areas of Innovation (Spain), Sociedade Portuguesa de Inovação (Portugal), Spanish National Research Council (Spain), and The Austrian Research Promotion Agency (FFG)<sup>24</sup></li><li>• 5 Brazilian partners: Brazilian Association of Technological Research and Innovation Institutes (ABIPTI), CONFAP, Finep – Research and Innovation, Pontifícia Universidade Católica do Rio Grande do Sul (PUCRS), and UNICAMP<sup>25</sup></li></ul>   |  |
| <p><b>Sectors and subsectors concerned:</b></p> <ul style="list-style-type: none"><li>• Research and Innovation (R&amp;I)<ul style="list-style-type: none"><li>• Marine research, Bioeconomy, Food Security and Sustainable Agriculture</li><li>• Energy</li><li>• Nanotechnology</li><li>• ICT</li></ul></li></ul>   |   |
| <p><b>Context:</b></p> <ul style="list-style-type: none"><li>• The project started in February 2016 and ended in January 2019 (three years duration).</li><li>• The Horizon 2020 project Increasing International STI Cooperation between Brazil and the EU (INCOBRA) aimed to increase and enhance R&amp;I cooperation activities between Brazil and EU actors. The project’s consortium comprised six Brazilian partners (including Porto Digital) and seven EU partners.<sup>26</sup></li><li>• Porto Digital is a leading technology park and innovation environment in Brazil and a public policy reference for economic and social development. Located in Recife, its main areas of activity are software, ICT and creative economy. Porto Digital is the result of a coordinated action between government, academia and business, a reference in the application of the "Triple Helix" model. Porto Digital is currently home to around 260 companies, development organizations and Government agencies<sup>27</sup>.</li></ul> |   |

<sup>23</sup> [www.portodigital.org/home](http://www.portodigital.org/home)

<sup>24</sup> [www.incobra.eu/en/object/organisation/consortium](http://www.incobra.eu/en/object/organisation/consortium)

<sup>25</sup> [www.incobra.eu/en/object/organisation/consortium](http://www.incobra.eu/en/object/organisation/consortium)

<sup>26</sup> [www.incobra.eu/](http://www.incobra.eu/)

<sup>27</sup> [www.incobra.eu/en/object/organisation/13](http://www.incobra.eu/en/object/organisation/13)

### Cooperation between Porto Digital and 7 EU Partners under INCOBRA project

#### Type of cooperation: Interdisciplinary Research and Development

- INCOBRA was a 36-month Coordination and Support Action (CSA) aimed at increasing, enhancing and focusing on R&I cooperation between Brazil and EU.
- INCOBRA's approach was aligned with the EU Strategy for International RI Cooperation, the EU Roadmap for R&I Cooperation with Brazil, the Brazil-EU Policy Dialogue priorities and with the work of the Strategic Forum for International STI Cooperation (SFIC).

#### Objective:

- INCOBRA's overall objective was built on three dimensions:
  - (1) Focus - better targeted RI cooperation activities: addressing Brazil-EU RI cooperation areas and anticipating trends and opportunities;
  - (2) Increase – more RI cooperation activities: more partnerships and joint R&I projects;
  - (3) Enhance – improved and sustainable framework conditions for developing R&I cooperation activities: funding programmes aligned with RI agendas coordinated.

#### Policy support:

- INCOBRA received funding from the EU's Horizon 2020 Research and Innovation programme, under the Grant Agreement number 692520.



#### Results/outcomes:

- Promotion of dialogue between Europe and Brazil through events, such as Strategic Foresight Workshop in Brazil and the JPIs on the Global Stage: Opportunities for International Collaboration Workshop.
- Organisation of Training Camps for Funding Agencies.
- Organisation of brokerage events, which have been designed to attract and engage private sector actors in the EU-Brazil RI dialogue.
- Organisation of webinars focused on Brazil-EU specific cooperation areas and cooperation opportunities.
- Organisation of Horizon 2020 InfoDays in Brazilian cities.
- Development of the INCOBRA Stakeholder Group, which aims to help organisations interested in international collaboration to find partners according to their interests. In order to achieve this matchmaking, INCOBRA has developed the Stakeholder matchmaking tool.
- Launch of INCOBRA's Call for Bilateral Networks, which aimed to foster and strengthen mutual cooperation between Brazilian and European RI actors through the support of bilateral networks on a wide range of priority areas. These calls provided a Grant for the implementation of mutual bilateral visits and workshops.

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## 3.2. Success story 2: Pôle Mer Méditerranée and ONIP

| Cooperation between Pôle Mer Méditerranée and ONIP  |   |
|---|---|
| <p><b>Partners:</b></p> <ul style="list-style-type: none"> <li>• Pôle Mer Méditerranée (France, EU)<sup>28</sup></li> <li>• Organização Nacional da Indústria e do Petróleo (ONIP) (Brazil)<sup>29</sup></li> </ul>   | <br> |
| <p><b>Sectors and subsectors concerned:</b></p> <ul style="list-style-type: none"> <li>• Water sector <ul style="list-style-type: none"> <li>• Marine Safety</li> <li>• Naval Industry</li> <li>• Marine Energy Sources</li> </ul> </li> </ul>  |   |
| <p><b>Context:</b></p> <ul style="list-style-type: none"> <li>• The project started in 2013 and is ongoing.</li> <li>• Pôle Mer Méditerranée is a sea innovation cluster located in South of France. Founded in 2005, it aims to promote the sustainable development of the maritime and coastal economy in the Mediterranean, Europe and the rest of the world. Pôle Mer Méditerranée focuses in six strategic business areas: i. Maritime safety and security; ii. Ship and nautical industry; iii. Marine energy resources; iv. Marine biological resources; v. Environment and coastal planning; and, vi. Ports, Infrastructures and shipping. It provides a wide range of services to its members related to access to funding, international activities, business growth, and collaborative R&amp;D projects. As of 2017, the cluster had 410 members including large companies, SMEs, and research institutes<sup>30</sup>.</li> <li>• ONIP is a national institution that aims to act as a bridge between exploration, production, refining, processing, transportation, distribution and supplier companies in the oil sector. ONIP's mission is to contribute to increase the competitiveness and sustainability of the domestic industry to maximize the local economies.</li> </ul> |   |
| <p><b>Type of cooperation: Technology transfer and business development</b></p> <ul style="list-style-type: none"> <li>• The partners signed a MoU in 2013 in Rio de Janeiro (Brazil)<sup>31</sup>.</li> </ul>  |   |

<sup>28</sup> [www.polemermediterranee.com](http://www.polemermediterranee.com)

<sup>29</sup> [www.rj.gov.br/web/sedeis/exibeconteudo?article-id=224434](http://www.rj.gov.br/web/sedeis/exibeconteudo?article-id=224434)

<sup>30</sup> [www.clustercollaboration.eu/cluster-organisations/p%C3%B4le-mer-m%C3%A9diterran%C3%A9e-business-innovation-sea-cluster](http://www.clustercollaboration.eu/cluster-organisations/p%C3%B4le-mer-m%C3%A9diterran%C3%A9e-business-innovation-sea-cluster)

<sup>31</sup> [www.polemermediterranee.com/Le-Pole-Mer-Mediterranee/Actualites/International/Accord-de-cooperation-signé-entre-l-ONIP-et-le-Pole-Mer](http://www.polemermediterranee.com/Le-Pole-Mer-Mediterranee/Actualites/International/Accord-de-cooperation-signé-entre-l-ONIP-et-le-Pole-Mer)

#### Cooperation between Pôle Mer Méditerranée and ONIP

- The cooperation agreement aims to reinforce the bilateral relations of Brazilian and French SMEs in the field of innovation, as well as the development of technologies in five areas of common interest: maritime security, maritime industry, maritime energy sources, protection of biology and marine resources, and development and protection of coastal environment.

#### Objective:

- The overall objective of this cooperation is to promote and facilitate partnerships between Brazilian and French SMEs in order to foster the development technology transfer and international cooperation activities. Among the foreseen projects and studies to be developed by the partnership, the following can be highlighted: research and solutions to reduce the risks associated with the oil exploitation in Brazil, implementation of seismic work in 4D, optimisation of the production costs, technology transfer in robotics for deep waters exploration, and coastal environmental impact studies.

#### Policy support:

- Ubifrance, former French agency for export promotion, supported the MoU signing.
- Pôle Mer Méditerranée receives funding support from several French national and regional authorities, such as Région SUD Provence Alpes Côte d'Azur, Région Occitanie Pyrénées Méditerranée, Métropole Toulon Provence Méditerranée, and Métropole Nice Côte d'Azur - Ports d'Azur<sup>32</sup>

#### Results/outcomes:

- The partners have been cooperating in the organisation of international missions, development of studies and joint participation in fairs and events, which have allowed for a greater mutual understanding.
- Reinforcement of existing relations and establishment of new collaborations.
- Development of member companies' businesses.
- A MoU in 2014 between the Government of Rio de Janeiro and SubSea Cluster to develop collaborations between industries from both countries.
- A MoU between Pôle Mer Méditerranée and ONIP to acquire mutual and better knowledge about both markets.
- In 2015, Pôle Mer Méditerranée and ONIP organised a mission with 14 participating companies. During the mission, the participating companies had 228 private meetings focused on consolidating existing relationships and promoting new innovative collaborative projects.
- The Pôle Mer Méditerranée and ONIP cooperation had positive results for French companies, such as FLODIM, Sofresud, NKE and CLS.
- Unfortunately, cooperation has slowed down due to Brazil's political and economic crisis.

<sup>32</sup> <https://en.polemermediterranee.com/Network/Partners/Financial-partners>

#### Cooperation between Pôle Mer Méditerranée and ONIP

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### 3.3. Success story 3: Parque Tecnológico São José dos Campos and ENRICH in Brazil

#### Cooperation between Parque Tecnológico São José dos Campos and ENRICH in Brazil

##### Partners:

- Parque Tecnológico São José dos Campos (São José dos Campos, SP, Brazil), member of the TIC Vale<sup>33</sup>
- 8 European Partners: European Business Network (EBN), Fraunhofer IPK (Germany), International Association of Science Parks and Areas of Innovation (Spain), Sociedade Portuguesa de Inovação (Portugal), DLR (Germany), RCISD (Hungary), Sabanci University (Turkey) and The Austrian Research Promotion Agency (FFG)<sup>34</sup>
- 4 Brazilian Partners: National Confederation of Industry (CNI), ANPEI, UNICAMP, CONFAP<sup>35</sup>



##### Sectors and subsectors concerned:

- Open to all sectors concerning RDI

##### Context:

- The project started in January 2017 and will end in December 2020 (4 years duration).
- The Parque Tecnológico São José dos Campos, based in São José dos Campos, is one of the largest innovation and entrepreneurship complexes in Brazil. Its mission is to promote STI and entrepreneurship, aiming at competitive and sustainable development. In order to do so, the park has created a respective environment that stimulates B2B cooperation to carry out RDI projects.
- ENRICH is the European Network of Research and Innovation Centres and Hubs in Brazil, formerly known as the project CEBRABIC. The Centre aims to enhance cooperation in research, technology and entrepreneurship between Europe and Brazil. It encourages sustainable internationalisation of European and Brazilian research and business organisations, as well as promotes cooperation among European and Brazilian research, innovation and business organisations.

<sup>33</sup> <http://www.pgtec.org.br/>

<sup>34</sup> <http://brazil.enrichcentres.eu/about>

<sup>35</sup> <http://brazil.enrichcentres.eu/about>

### Cooperation between Parque Tecnológico São José dos Campos and ENRICH in Brazil

#### Type of cooperation: International Cooperation & Soft-landing hub

- ENRICH in Brazil is a 48-month Coordination and Support Action (CSA), which aims to implement a physical centre in Brazil to support the international interests of EU actors.
- ENRICH's approach is aligned with the EU Strategy for International RI Cooperation, the EU Roadmap for RI Cooperation with Brazil, the Brazil-EU Policy Dialogue priorities and with the work of the Strategic Forum for International STI Cooperation (SFIC).
- Parque Tecnológico São José dos Campos is a soft-landing hub of ENRICH in Brazil.

#### Objective:

ENRICH Soft Landing Hubs (SLH) are specialised Service Providers and, therefore, foreseen to be a more exclusive category, which are going to deliver incubation and soft landing services to ENRICH in Brazil end-clients. The accreditation process will enable ENRICH to build a community of trustees able to provide a comprehensive set of services supporting end-clients to develop long-term partnerships with Brazilian and European organisations.

#### Policy support:

- The ENRICH in Brazil project received funding from the EU's Horizon 2020 Research and Innovation programme, under the Grant Agreement number 733531 - CEBRABIC — H2020-SC6-ENG-GLOBALLY-2016-2017/H2020-SC6-ENGGLOBALLY-2016-1.

#### Results/outcomes:

- Accreditation of the Park to become a Soft-landing hub;
- The Park is officially running as a member of the ENRICH in Brazil's Community;
- Development of training activities;
- Reception and advice of EU start-ups, entrepreneurs, and RDI actors in soft-landing in Brazil.

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## 4. Opportunities/potential for further EU-Brazil cluster cooperation: thematic focus

Despite the political crisis and remaining legal barriers to investment in Brazil, the country is by far one of the most favoured countries in Latin America for investment, which is an indication of the opportunities and potential for EU-Brazil cooperation. The greatest opportunities and potential for cooperation are most likely within Brazil's most innovative sectors. The following section highlights opportunities and potential for cooperation in the three sectors identified by the Preparatory Briefing as the sectors with considerable opportunities for EU-Brazil C2C cooperation.

### 4.1. Biotechnology sector

The biotechnology sector is one of the most sophisticated sectors in Brazil, offering promising opportunities for cooperation with EU clusters<sup>36</sup>. In 2017, there were approximately 155 Brazilian companies active in the biotechnology sector, especially in the areas of agriculture, bioenergy, environment, animal health, and human health. Brazil is also home to around 300 biotech start-ups, which are mainly focused on industrial, environmental, agriculture and healthcare fields<sup>37</sup>.

The EURAXESS Brazil is an initiative that offers opportunities for the EU and Brazil to cooperate in the biotechnology sector. SME members of EU and Brazilian biotechnology clusters could benefit from this initiative since it has the objective of promoting researcher's mobility and cooperation. EURAXESS Brazil has been serving researchers interested in collaborating with and/or pursuing a research career in Europe since 2013. This initiative includes programmes to promote the cooperation and mobility between the EU and Brazil in the Biological and Medical Sciences<sup>38</sup> with the aim of enhancing cooperation between businesses in these fields. In 2018, the EURAXESS Brazil & LAC funding opportunities included incoming opportunities in Bioenergy and Industrial Biotechnology, and Plant Sciences and Biotechnology<sup>39</sup>.

In November 2018, ENRICH in Brazil promoted an Innovation Tour to Brazil. During this tour, European SMEs had the opportunity to travel through some of the most innovative Brazilian cities, namely São Paulo, Belo Horizonte, Rio de Janeiro, and to visit top research and technology organisations to gain insights about the research conducted in Brazil in the fields of Bioeconomy and Biotechnology. The areas of biopharmaceuticals, agricultural biotechnology, animal and industrial biotechnology were identified as important areas for EU-Brazil cooperation<sup>40</sup>.

<sup>36</sup> <http://archive.clustercollaboration.eu/web/guest/brasil>

<sup>37</sup> <http://www.bioblog.com.br/mercado-de-biotecnologia-no-brasil-aponta-grandes-oportunidades-de-crescimento/>

<sup>38</sup> <https://euraxess.ec.europa.eu/worldwide/brazil>

<sup>39</sup> [https://cdn5.euraxess.org/sites/default/files/brazillac\\_euraxess\\_funding\\_2018\\_august.pdf](https://cdn5.euraxess.org/sites/default/files/brazillac_euraxess_funding_2018_august.pdf)

<sup>40</sup> [www.brazil.enrichcentres.eu/sharedResources/users/5764/ENRICH\\_Innovation%20Tour%20to%20Brazil\\_November%202018.pdf](http://www.brazil.enrichcentres.eu/sharedResources/users/5764/ENRICH_Innovation%20Tour%20to%20Brazil_November%202018.pdf)

***In view of the policy dialogue on cluster cooperation in this field***

In March 2016, Celso Pansera, the Minister of Science, Technology and Innovation of Brazil, and Carlos Moedas, European Commissioner for Research, Science and Innovation, signed a joint MoU to extend cooperation between Brazil and the European Union in biotechnology research with a focus on the Atlantic Ocean<sup>41</sup>.

## 4.2. Renewable energy sector

Brazil is Latin America's largest renewable energy market, with approximately 75% of the country's electricity deriving from renewable sources<sup>42</sup>. Abundant natural resources, strong government incentives, compelling financing options and facilitated logistics make Brazil one of the most attractive global markets for renewable energy. The Brazilian market offers major opportunities to develop cooperation in this sector, particularly in the wind sub-sectors<sup>43</sup>. Thus, taking into account the importance of the renewable energy sector for both the EU and Brazil, there are several opportunities for C2C cooperation among these regions.

The wide range of opportunities in this sector also led to the organisation of the EU-Brazil Cluster & Business Matchmaking Event, which took place in Lyon with the aim of fostering cooperation between European and Brazilian clusters and companies<sup>44</sup>. The event was co-organized by the ECCP and the LCBA in Brazil. Moreover, the previously mentioned Innovation Tour to Brazil 2018, promoted by ENRICH in Brazil, was also focused on opportunities in the Renewable Energy sector<sup>45</sup>.

As previously mentioned, LCBA in Brazil, aims to contribute to sustainable development and greening of Brazilian industries through the adoption of low emission technologies. Under this initiative, during the years of 2016 and 2017, several business rounds were held in Brazil until 90 projects were selected to receive technical assistance in order to enable partnership agreements with Brazilian companies from the low carbon sectors and facilitate their access to green funds to finance their projects, contributing to reduce Greenhouse Gas (GHG) emissions in Brazil. The second phase of LCBA in Brazil (2017-2019), which involves offering technical and financial support to all the selected projects during the first phase, can represent an opportunity for EU-Brazil cooperation<sup>46</sup>.

According to the LCBA in Brazil, the resource efficiency sector is also a sector with a large potential for EU-Brazil cooperation. In fact, the agreement established in 2018 by the EC, the Brazilian National Council for Scientific and Technological Development, the Brazilian Funding Agency for Studies and Projects, and the CONFAP, which establishes a co-funding mechanism for Brazilian participation in

<sup>41</sup><http://sectordialogues.org/en/noticia/brazil-and-european-union-enhance-marine-research-cooperation>

<sup>42</sup>[www.export.gov/article?id=Brazil-Renewable-Energy](http://www.export.gov/article?id=Brazil-Renewable-Energy)

<sup>43</sup>[www.ft.com/content/a20b74bc-7eb4-11e7-ab01-a13271d1ee9c](http://www.ft.com/content/a20b74bc-7eb4-11e7-ab01-a13271d1ee9c)

<sup>44</sup>[www.b2match.eu/eu-brazil-2016](http://www.b2match.eu/eu-brazil-2016)

<sup>45</sup>[www.brazil.enrichcentres.eu/sharedResources/users/5764/ENRICH\\_Innovation%20Tour%20to%20Brazil\\_November%202018.pdf](http://www.brazil.enrichcentres.eu/sharedResources/users/5764/ENRICH_Innovation%20Tour%20to%20Brazil_November%202018.pdf)

<sup>46</sup><http://lowcarbonbrazil.com.br/index.php>

Horizon 2020, highlights environmental research as a main area for cooperation<sup>47</sup>. Under the topics of particular interest regarding Brazil in the Work Programme 2018-2020, there is one specific call related to resource efficiency: SC5-21-2019-2020 - ERA-NET Cofund action(s) for climate action, environment, resource efficiency and raw materials<sup>48</sup>.

***In view of the policy dialogue on cluster cooperation in this field***

By recognising the need to further strengthen energy cooperation between Europe and Brazil, in 2007, the EC and Brazil agreed to reinforce their bilateral relations on the basis of a sectoral policy dialogue in the field of energy. The main aims of the established EC-Brazil Regular Energy Policy Dialogue are: to exchange information, experiences and views on issues of common interest regarding energy policy strategies for sustainable, competitive and secure energy; to study the future development of fossil and renewable fuel chains consistent with the objective of sustainable development; and to discuss the various possible strategies for the development of a secure and sustainable energy and define specific projects for future EC-Brazil bilateral cooperation in order to help achieve this objective<sup>49</sup>.

## 4.3. Information and Communication Technology

In 2017, Brazil was Latin America's largest information and technology (IT) market<sup>50</sup>. Cities like São Paulo, Belo Horizonte, Florianópolis and Rio de Janeiro are developing into the new tech hubs of Latin America<sup>51</sup>. Data communication in mobile devices, cybersecurity, cloud computing, Internet of Things (IoT), infrastructure for cloud-based services, big data and analytics are the main ICT trends in Brazil, which may represent important areas for EU-Brazil cooperation<sup>52</sup>.

Considering the importance of the cooperation between Brazilian and EU businesses in ICT, the MCTIC launched in 2016 the "ICT Week" in Brasília, Brazil. The "ICT Week" aims at fostering innovation exchanges and discussions on digital technologies. In 2016 and 2017, the event gathered researchers, policy makers and ICT enterprises from both Brazil and the EU to discuss artificial intelligence, advanced manufacturing, cyber security, IoT, over the top (OTT) services, 3D printing and 5G technologies. During the 2017's edition, the Minister-Counsellor of DELBRA highlighted the importance of promoting EU-Brazil cooperation for technological development<sup>53</sup>.

In addition, joint calls for collaborative projects in fields such as Cloud Computing<sup>54</sup>, IoT<sup>55</sup> and 5G Networks<sup>56</sup> aim to foster EU-Brazil cluster collaboration in the ICT field.

<sup>47</sup> [www.ncps-care.eu/?p=2628](http://www.ncps-care.eu/?p=2628)

<sup>48</sup> [https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020\\_localsupp\\_brazil\\_en.pdf](https://ec.europa.eu/research/participants/data/ref/h2020/other/hi/h2020_localsupp_brazil_en.pdf)

<sup>49</sup> [https://ec.europa.eu/energy/sites/ener/files/documents/ec\\_brazil\\_terms\\_of\\_reference\\_en.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/ec_brazil_terms_of_reference_en.pdf)

<sup>50</sup> [www.telecompaper.com/news/brazil-ict-sector-grows-127-in-2017-growth-to-slow-to-5-in-2018--1241146](http://www.telecompaper.com/news/brazil-ict-sector-grows-127-in-2017-growth-to-slow-to-5-in-2018--1241146)

<sup>51</sup> [www.thenextsiliconvalley.com/2015/08/20/3350-brazil-nurtures-its-own-mini-silicon-valley-like-clusters/](http://www.thenextsiliconvalley.com/2015/08/20/3350-brazil-nurtures-its-own-mini-silicon-valley-like-clusters/)

<sup>52</sup> [www.export.gov/article?id=Brazil-Information-Technology-Computer-Software-and-Hardware](http://www.export.gov/article?id=Brazil-Information-Technology-Computer-Software-and-Hardware)

<sup>53</sup> <http://sectordialogues.org/news/innovation-and-digital-transformation-are-the-main-focus-of-ict-week-2017>

<sup>54</sup> [www.incobra.eu/en/object/call/44](http://www.incobra.eu/en/object/call/44)

<sup>55</sup> [www.incobra.eu/en/object/call/44](http://www.incobra.eu/en/object/call/44)

<sup>56</sup> [www.incobra.eu/en/object/call/44](http://www.incobra.eu/en/object/call/44)

***In view of the policy dialogue on cluster cooperation in this field***

Brazil is one of the few Latin American countries whose ICT priorities are aligned with Horizon 2020 pillars societal challenges and industrial leadership. Even though there are several cooperation opportunities between Brazil and EU countries, there is no official agreement between both regions regarding the ICT sector<sup>57</sup>.

## 5. Recommendations for cluster cooperation with Brazil

The EU and Brazil have been strengthening their relationship through the establishment of important cooperation agreements. The Clusters Cooperation Agenda signed between the Brazilian GTP-APL and the ECCP in 2011 aimed at strengthening business, research and technological cooperation, as well as promoting SME internalisation by encouraging clusters from Brazil and Europe to collaborate. In addition, the EU-Brazil Strategic Partnership Joint Action Plan 2017-2021 also represents an opportunity to promote C2C cooperation.

The LCBA led under the EU Foreign Policy Instrument (FPI) clearly demonstrates the efficiency of the clusters in engaging with SMEs bilaterally as 366 business partnership agreements between SMEs from the EU and Brazil have been signed in the first phase of the scheme. It is recommended that EU-Brazil cluster cooperation builds on this experience so that impact can be materialise earlier through better time-to-market. Further alignment with FPI, as well as the involvement of the European Investment Bank, would enhance the potential of this type of cooperation.

The ENRICH Brazil project under the Horizon 2020 programme, also provides opportunities to enhance cooperation in research, technology and entrepreneurship between Europe and Brazil. The Centre encourages sustainable internationalisation of European research and business organisations to the Brazilian market, and promotes cooperation among European and Brazilian research, innovation and business organisations. The cooperation between Parque Tecnológico São José dos Campos and ENRICH in Brazil (Success story 3) represents an example of how ENRICH in Brazil can foster EU cooperation with Brazilian clusters.

Furthermore, the cooperation between parties could focus in the biotechnology, renewable energy (including resource efficiency) and ICT areas, as these have been recognised in the EU-Brazil Agreement for Scientific and Technological Cooperation and the JCR-MCTI Cooperation Arrangement, as industrial sectors of common interest for both regions.

A few cluster matchmaking missions have been conducted to facilitate cooperation between European and Brazilian clusters. The EU-Brazil Cluster & Business Matchmaking Event held in France in November

<sup>57</sup> [https://ec.europa.eu/energy/sites/ener/files/documents/ec.brazil\\_terms\\_of\\_reference\\_en.pdf](https://ec.europa.eu/energy/sites/ener/files/documents/ec.brazil_terms_of_reference_en.pdf)

2016, for instance enabled 18 clusters and 6 SMEs from EU Member States to meet 34 clusters, associations, businesses and government bodies from Brazil<sup>58</sup>.

Brazil is a target destination for R&D and business cooperation for one second generation European Strategic Cluster Partnership Going Global (ESCP-4i) under the COSME programme, namely New Frontiers in Food Fast Forward (NF4)<sup>59</sup>. The NF4 project is an internationalisation fast track accelerator for new frontiers innovation-intensive food SMEs, managed by a 5-Food Clusters alliance: Clusaga (ES); Food Valley (NL); Valorial (FR); Vitagora (FR) and Wagralim (BE). This project aims to promote cooperation activities with Brazil, which are expected to include a matchmaking event in São Paulo (Brazil).

Even though there are several examples of policy and cluster level developments towards EU-Brazil cooperation (stated in this Paper and in the Preparatory Briefing Paper on Brazil), cluster collaboration between the two regions is relatively new and too limited. As a result, more cluster matchmaking missions may justify further support from the EC to ensure strong cooperation is established between the Brazilian and EU cluster organisations. Likewise, a more strategic agenda for this interaction between the two cluster communities is highly recommended in view of the potential impact and growth that should arise from EU-Brazil cluster cooperation.

<sup>58</sup> [www.clustercollaboration.eu/event-calendar/eu-brazil-cluster-business-matchmaking-event](http://www.clustercollaboration.eu/event-calendar/eu-brazil-cluster-business-matchmaking-event)

<sup>59</sup> [www.clustercollaboration.eu/news/brazilian-delegation-visiting-wagralim-belgium-new-frontiers-food-fast](http://www.clustercollaboration.eu/news/brazilian-delegation-visiting-wagralim-belgium-new-frontiers-food-fast)