‘Mapping of collaborative activities on Science, Technology and Innovation between Brazil and the European Union, Member States & Associated Countries’ 2020
‘Mapping of collaborative activities on Science, Technology and Innovation between Brazil and the European Union, Member States & Associated Countries’ 2020
I am very pleased to introduce the compendium of collaborative activities on science, technology and innovation (STI) of the European Union plus several EU Member States and Associated Countries to the EU Programme on R&I, Horizon 2020 with Brazil and Brazilian institutions. This is the result of a joint effort between the EU Delegation and several European Missions in Brasília. It gives an overview of various forms of STI cooperation between Europe and Brazil serving as useful reference tool for interested readers in both sides on different agreements and arrangements, programmes, institutions and funding opportunities.

The EU gives great importance to international cooperation in Research and Innovation (R&I) activities, which constitutes a vital part of the EU-Brazil Strategic Partnership Agreement and forms equally a very relevant pillar of the relationship between Brazil and the European Union, its Member States and those Associated Countries. We believe that it is only by bringing the world’s best research and best researchers together that we can tackle global challenges such as health, climate change, energy and food security among many others.

Being the EU and Brazil key R&I partners, especially when coming to addressing global challenges, they are interconnected and have a lot to offer for each other. Brazil has signed with many European countries over 40 bilateral agreements and arrangements on STI cooperation in addition to contributions in several regional and multilateral mechanisms and forums. It is not only the significant number of initiatives and partnerships, but also the cross-cutting nature of the cooperation covering many scientific disciplines and technology areas and involving many different actors, from individual researchers, universities to bigger laboratories and enterprises.

Going forward, significant steps have been made in moving towards a new and equitable STI partnership between the EU and Brazil, based on sharing responsibility through co-funding coordinated mechanisms. Indeed, mutual interest, common challenges and cooperation among equals are the strong principles on which further cooperation between Brazil, the EU and MCS/ACs should be further developed under the coming EU programme Horizon Europe (2021-2027). This would also build on the considerable bilateral cooperation between EU Member States plus Associated Countries and Brazil helping to grow our economies and strengthening the international dimension of our innovation policies.

I invite you to find in this compendium an illustration of the richness of R&I ties between Europe and Brazil. A better mutual knowledge and understanding of EU policies and instruments for international R&I collaboration contributes to reinforcing and widening of existing cooperation and to developing new synergies between Europe and Brazil. It is my hope that this mapping exercise will not only serve as a reference source, but also encourage stronger R&I relations between Brazil, the EU, its Member States and Associated Countries.

Finally, I would like to conclude this short introduction thanking to the excellent collaboration with the Brazilian Ministry of Science, Technology and Innovation (MCTI), our main interlocutor at the Federal level, together with its related agencies and institutions, and highlighting that it is a honour to sign this Mapping exercise Preface with the Minister Marcos Pontes. Likewise, I also would like to express our gratitude for those Member States of the EU and the Horizon 2020 Associated Countries having participated in the preparation of the document, as well as to the Section of the EU Delegation in Brasília for their intensive work and excellent collaboration in preparing this brochure.

IGNACIO YBÁÑEZ RUBIO
Ambassador of the European Union to Brazil
Before I become the Ministry of Science, Technology, Innovation and Communications, in January 2019, I have already known the importance of international cooperation, and particularly the bilateral collaboration Brazil-European Union. Indeed, Brazil and Europe have a historical and cultural link that is translated into the shared values of equity, democracy, liberty, among others. It is not different in the field of Science and Technology.

In recent years, we have strengthened our cooperation furthermore. In the space area, the collaborative work on Earth Observation between the National Institute for Space Research, the Brazilian Space Agency the European Space Agency and the European Organization for the Exploitation of the Meteorological Satellites demonstrates our capacity in sharing data from satellites, that help us to better understand some phenomena, particularly in meteorology and environment. I am sure that these results will generate more knowledge and new technologies to benefit our people.

Another productive collaboration is on ocean sciences. Last year, I had the pleasure to receive the visit of the Head of Marine Resources Unit. We talked about our common interest in protecting the oceans and utilizing them with responsibility, preserving natural resources. Also, a Brazilian delegation participated in the All-Atlantic Ocean Research Forum, occasion in which our representatives had a fruitful dialogue on oceans, and other matters about our bilateral cooperation, as well. Besides the Belem Statement, we have a strong collaboration on ocean sciences with some countries, like Germany, France, Norway, and Portugal.

The Sectorial Dialogues offer opportunities for strengthening our relationship over recent years. In this context, in 2019, Brazilian delegations visited some countries in Europe in order to exchange ideas and prospect new collaborations in the areas of Industry 4.0 and Entrepreneurship, focused on startups. I consider Innovation a key area, and we included this topic for discussion in our last Joint Steering Committee meeting. Furthermore, a Brazilian delegation participated in the EU-LAC Innovation Cooperation Conference. On that occasion, our representatives scheduled a Brazil-European Union Innovation Conference, to be hosted by Brazil. We hope we can accomplish our intent as soon as possible.

These are just a few examples of our collaboration in recent years. It is essential to remark we have cooperation on ST&I in course with every state-members of the EU, as described in this complete mapping. However, I want to highlight the strong and fruitful collaboration with the Netherlands, Sweden, Germany, Norway, France, Portugal, among others. Besides, we are very interested in opening new fronts of cooperation and strengthening our partnership with Ireland, Czech Republic, Slovenia, Spain, and Finland.

I also want to congratulate the European Commission for the success of the Horizon 2020 Program. Undoubtedly, it demonstrated how Science needs to be valued by Governments and the private sector. I hope the new Framework Program, Horizon Europe, can be even more successful, and the European Commission considers Brazil as a reliable partner capable of participating as an associated country. As I use to say, we all depend on Science and Technology to survive and to build the appropriate partnerships is vital for achieving the best results.

By this “Mapping of collaborative activities on science, technology and innovation (STI) between Brazil and the EU&MSs/ACs”, we can see that our priorities are coincident. This work was thought to assemble precise information, and we can bring to the conclusion that we have been carrying out excellent and fruitful efforts over the years. This mapping demonstrates we can do even more together, in order to benefit our countries and the whole world.

MARCOS CESAR PONTES
Minister of Science, Technology and Innovations
Federative Republic of Brazil
STRUCTURE AND METHODOLOGY OF THE MAPPING EXERCISE

Under initiative of the Section on Science, Technology and Innovation (STI) of the EU Delegation to Brazil, the objectives and scope of the present compendium of bilateral STI collaborative activities between Brazil and the EU plus Member States (MSs) and Associated Countries to the EU programme on research and innovation Horizon 2020 (ACs) was initially discussed at various STI Counsellors’ Coordination meetings held during 2017.

This mapping exercise provides a clear overview of the EU, its Member States and Horizon 2020 Associated Countries agreements and instruments for cooperation in STI in place with the country. It encompasses all STI areas and was addressed to governmental and public national and regional actors. The exercise was also aimed at cooperating in different degrees between all MSs/ACs and the EU facilitating the cross-fertilisation of information.

The main objectives of the mapping aim at:

- Sharing information and opportunities, as well as encouraging the provision of updated inputs to the Missions in Brazil by stakeholders active vis-à-vis Brazilian partners;
- Identifying synergies, gaps and complementarities within European and Brazilian frameworks;
- Providing the European Commission and national authorities with updated data aimed at improving strategic approaches at community and national levels respectively; and
- Exploring partnerships in specific areas among MSs/ACs.

The scope of the mapping, conceived as a win-win exercise, is based on the fixed common sections of the table below. However, none of those sections were mandatory since some specific elements were not always be applicable to all countries.

<table>
<thead>
<tr>
<th>1. Cooperation frameworks</th>
<th>2. Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Are there bilateral agreements, MoU, arrangements, etc. at national level in force?</td>
<td>Is there a national STI strategy with Brazil?</td>
</tr>
<tr>
<td>Which are the respective counterparts and the frequency of committee meetings?</td>
<td>Is Brazil encompassed into a regional STI strategy with this country?</td>
</tr>
<tr>
<td></td>
<td>Which are the STI priority fields of the bilateral cooperation?</td>
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<td></td>
<td>Are there national scientific counsellors in Brazil?</td>
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</table>

<table>
<thead>
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<th>3. Main initiatives and programmes</th>
<th>4. Mobility schemes (in both directions)</th>
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</thead>
<tbody>
<tr>
<td>Are there joint calls or coordinated actions?</td>
<td></td>
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<tr>
<td>Are there any specific bilateral initiatives or programmes?</td>
<td></td>
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<tr>
<td>Are there specific agencies involved?</td>
<td></td>
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<tr>
<td>Are there joint institutes or labs?</td>
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</table>

<table>
<thead>
<tr>
<th>5. Financial support</th>
<th>6. Further information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Which are the specific funding schemes?</td>
<td>Possible highlights, marketing activities, statistical data, websites…</td>
</tr>
<tr>
<td>Are there agreed co-funding mechanisms and reciprocal access?</td>
<td></td>
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</tbody>
</table>

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<tr>
<th>7. Improving STI collaboration</th>
<th></th>
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<tbody>
<tr>
<td>Bottlenecks and risks, proposals for improvement…</td>
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</table>

This mapping exercise was developed during 2018 and 2019 by 18 countries (including three Associated Countries) plus the EU, so that those contributions also reflect the widely diverse characteristics of the diplomatic Missions of different countries in Brasilia. The general overview of the information provided by the mapping emphasises the robust STI system in Brazil and the country’s interest to foster the scientific cooperation with European countries.
INTRODUCTION TO HORIZON EUROPE

In June 2018 the European Commission adopted the proposal for the European Union Framework Programme for Research and Innovation 2021-2027 (Horizon Europe) and during the spring of 2019, the European Parliament and the Council reached a political agreement on key elements of the proposal. And finally, the Special European Council meeting held in Brussels on 17-21 July 2020, approved the Multiannual Financial Framework (MFF) of the EU for the period 2021-2027.

In this budgetary context, the next ‘Horizon Europe programme’ and its complementary ‘Euratom programme’ are located under the Heading 1 (Single Market, Innovation and Digital) with respective €80.9 billion (including the recovery effort under Next Generation EU - NGEU) for Horizon Europe and €1.757 billion for Euratom, with additional €5 billion for the International Thermonuclear Experimental Reactor (ITER). Without considering NGEU elements, this shows that Science, Technology and Innovation continues to be the third EU policy in budgetary terms of MFF after the Cohesion Policy and the Common Agricultural Policy.

In this respect, the programme Horizon Europe uses a variety of targeted instruments and approaches to facilitate more efficiently direct R&I investments and to maximise the impact of investing public funds towards achieving global challenges and EU policy objectives. Among the tools to implement the programme are missions and partnerships, missions being a completely new approach, while the approach to partnerships has gone through a major reform based on the experience of Horizon 2020. In this framework, a wide international cooperation policy will be implemented, including also the possibility for third countries to be associated to specific parts of the programme. In relation to the mapping exercise of bilateral STI collaborative activities with MSs and ACs, the programme Horizon Europe is therefore a concrete possibility not only for integrating the European countries but also for supporting and reinforcing their bilateral cooperations with Brazil.

As a key source of new solutions, and an important and crosscutting part of the EU Programmes, Horizon Europe plays a pivotal role in shaping, supporting and delivering on European policy priorities, in collaboration with Member States and future associated countries through the European Research Area. In her Political Guidelines for the European Commission 2019-2024 adopted by the European Council on 20 June 2019, the President of the European Commission, Mrs Ursula von der Leyen, has put forward six overarching priorities for the next five years, i.e.: a ‘European Green Deal’; an economy that works for people; a Europe fit for the digital age; promoting the European way of life; a stronger Europe in the world; and a new push for European democracy.

Together with the Sustainable Development Goals (SDGs), these priorities will shape future EU policy responses to the challenges we face and will steer the ongoing transitions in the European economy and society, EU research and innovation has an important role to play, by enabling, steering and supporting each of these priorities.

The Horizon Europe programme is expected to be approved at the end of 2020. It will be composed of three distinct pillars, supported by activities to widen participation and strengthening the European Research Area (ERA), each part contributing to the common Horizon Europe objectives. While the Strategic Planning process focuses on the activities within pillar II on global challenges and industrial competitiveness, coordination is sought with relevant activities in other parts of the programme in order to maximize added value and impact overall. The preliminary structure of Horizon 2020 is the following:
Open Science

The first pillar aims to promote scientific excellence, the creation and diffusion of new knowledge, skills, technologies and solutions as well as the access to and the development of world-class research infrastructures, and boost the training and mobility of researchers, thus raising the attractiveness of the European Research Area. The pillar I is largely bottom-up and thus opens the way to new and often unexpected scientific and technological results, which can also drive forward the Horizon Europe objectives of enabling innovation and business inventiveness and contribute to tackling global and societal challenges, including to help missions achieve their goals.

The European Research Council (ERC) will continue to pursue ground-breaking, high-gain/high-risk research and to advance the frontiers of knowledge. ERC will also share experience and best practices with regional and national research funding agencies and build links to other parts of Horizon Europe. The Marie Skłodowska-Curie Actions (MSCA) will continue to fund, support and train the people and institutions behind research and innovation, strengthening excellent doctoral and postdoctoral training programmes, as well as researcher training and career development systems across the ERA, in a fully bottom-up and competition-for-excellence-based manner.

Research Infrastructures actions support the provision of state of the art services, knowledge, and tools to address societal challenges, ensure evidence-based policy making and help industry to strengthen its base of knowledge and technical know-how. Research Infrastructures will thus substantially contribute to the objectives of the clusters and missions supported in Horizon Europe and to the referred SDGs. Research Infrastructures actions, in cooperation with the European Strategy Forum on Research Infrastructures (ESFRI), contribute to reduce fragmentation and to consolidate the landscape of European, national and regional infrastructures.

Global Challenges and Industrial Competitiveness

One of the main objectives of Horizon Europe, and in particular its second pillar is to generate knowledge, strengthen the impact of research and innovation in developing, supporting and implementing Union policies and support the access to and uptake of innovative solutions in European industry, notably in SMEs. The main areas are structured within six clusters: Health; Culture, creativity and inclusive society; Civil security for society; Digital, industry and space; Climate, energy and mobility; and Food, bio-economy, natural resources, agriculture and environment.

Additionally, to support the society to address global challenges, including climate change and the SDG’s, actions under pillar II of Horizon Europe will target selected themes of especially high impact that significantly contribute to delivering on the political priorities of the Union. In this regard, five mission areas to be developed with continuous interaction with the civil society were defined: Adaptation to climate change, including societal transformation; Cancer; Healthy oceans, seas, coastal and inland waters; Climate-neutral and smart cities; and Soil health and food.

Open Innovation

The Open Innovation pillar aims to make Europe a frontrunner in market-creating innovation via the European Innovation Council. It will help develop the overall European innovation landscape, including by further strengthening the European Institute of Innovation and Technology (EIT) to foster the integration of business, research, higher education and entrepreneurship.

The European Innovation Council (EIC) will enhance Europe’s capabilities at the forefront of the next wave of disruptive, market-creating innovation. It will be the one-stop shop for enabling inventors, innovators and investors to bring the most promising ideas to real world application, and will support the scaling-up of innovative start-ups and companies.
Mapping of collaborative activities on Science, Technology and Innovation (STI) between Brazil and the EU & MSs/ACs

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1. Cooperation frameworks

Funding Structure in Austria

The main sources of public research funding in Austria are the Federal Ministry of Education, Science and Research (BMBWF), the Federal Ministry of Transport, Innovation and Technology (BMVIT) and Federal Ministry for Digital and Economic Affairs (BMDW).

The BMBWF is responsible for tertiary education and for basic research. It is also responsible for the Austrian Science Fund (FWF), the largest independent funder for basic research in Austria, and represents Austria at the European level on issues related to research and university education.

The Austrian Research Promotion Agency (FFG) is the national funding agency for industrial research and development in Austria, wholly owned by the Republic of Austria, represented by the Federal Ministry of Transport, Innovation and Technology (BMVIT) and Federal Ministry for Digital and Economic Affairs (BMDW).

At the operational level, most of the funding for R&D and innovation is managed by three agencies on behalf of the ministries: the FWF is the most important body for the funding of basic research, the FFG funds applied research and development, and the AWS is specialised in funding start-ups and innovation projects in companies. FFG is also the National Contact Point organization for the H2020 Programme of the EU.1

Existing Cooperation

Austria does not have any intergovernmental bilateral S&T agreement with Brazil.

FFG is currently the most active agency in terms of collaboration with Brazilian organizations. In 2016 FFG and FINEP have signed a bilateral agreement to establish cooperation partnerships between each other and between enterprises and research organizations in both countries, aiming to promote the exchange of experience, and the development of action plans including funding of projects and activities in the areas of mutual interest.

Within the EU H2020 Programme FFG has been actively participating in two initiatives and coordinates one initiative, respectively INCOBRA2, ENRICH in Brazil3 and M-era.Net4 and collaborate with nine Brazilian organizations, representing different sides of research and innovation, such as universities, state and federal funding agencies, industrial associations, etc.

FFG and FINEP also cooperate within the TAFTIE Network since FINEP’s involvement in the network in 2016 as international partner5.
2. Priorities

According to the Beyond Europe Strategy of Austria\(^6\) the thematic priorities with Brazil are mainly the topics addressing grand challenges in infrastructure technology such as energy, environment, urbanization and aerospace.

Additionally, each Austrian Federal State has defined its own strategic and thematic RTI-priorities that can also be considered for international cooperation\(^7\):

<table>
<thead>
<tr>
<th>Federal State</th>
<th>Strategic priorities/fields of action</th>
<th>Strategic R&amp;D priorities and potentials</th>
</tr>
</thead>
<tbody>
<tr>
<td>Upper Austria</td>
<td>1) Industrial production processes</td>
<td>Mathematic modelling; software architecture and steering processes; data protection; hardware; surface and material development; test and inspection systems; production technologies; process engineering and optimisation; energy and resource management</td>
</tr>
<tr>
<td></td>
<td>2) Energy</td>
<td>Decentralised client-oriented systems (e.g. smart grids); grid load management and monitoring; renewable energies; building techniques</td>
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<tr>
<td></td>
<td>3) Health, ageing society</td>
<td>Medical information systems and software (eHealth, virtual surgery; pattern recognition); apparel and materials; telemetry; personalised diagnostics; prevention and therapy</td>
</tr>
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<td></td>
<td>4) Food and nutrition</td>
<td>Ingredients and modified food; packaging and materials; food quality and safety; testing and measurement; production technologies</td>
</tr>
<tr>
<td></td>
<td>5) Mobility/logistics</td>
<td>Transport; logistics; supply chain management; motor vehicle technologies and propulsion technologies; light weight construction of structures</td>
</tr>
</tbody>
</table>
## Strategic Economic Priority Themes

| Styria | 1) Mobility | Clean mobility; niche technologies and products in aircraft and train system technologies |
|        | 2) Eco-Tech | Wood technologies |
|        | 3) Health-Tech | Food and health technologies |

| RTI Thematic Corridor Priorities

| Styria | 1) Mobility | Within these research fields also the potential of contributions of SSH and arts towards societal and economic challenges should be considered |
|        | 2) Energy/resources/sustainability |
|        | 3) Materials |
|        | 4) Health/biotech |
|        | 5) Information society |

| Lower Austria | 1) Agricultural technologies for food and veterinary medicine |
|               | 2) Society, culture |
|               | 3) Health, medicine |
|               | 4) Natural sciences, engineering sciences |
|               | 5) Environment, energy, resources |

<p>| Carinthia | 1) Human resources | In the field of engineering and natural sciences |
|          | 2) ICT | Interdisciplinary connections between ICT with SSH (e.g. Institute of Applied Research on Ageing); embedded system technologies |
|          | 3) Production technologies | e.g. Industry 4.0 |
|          | 4) Sustainability | Renewable energies; sustainable construction |</p>
<table>
<thead>
<tr>
<th>Tyrol</th>
<th>RTI future topics</th>
<th>Mechatronics, digital transformation (Industry 4.0), tourism research</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>1) Creative industries</td>
<td></td>
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<tr>
<td></td>
<td>2) Material sciences</td>
<td></td>
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<tr>
<td></td>
<td>3) Material engineering</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4) Alpine space</td>
<td></td>
</tr>
<tr>
<td>Burgenland 1</td>
<td>Sustainable technology</td>
<td>Construction material and technologies; energy efficiency; sustainable and renewable energies; smart grids/regional consumption systems</td>
</tr>
<tr>
<td>Burgenland 2</td>
<td>Sustainable quality of life</td>
<td>Ambient assisted living; health competence and operational health promotion; prevention and recreation; mental health; product and process optimisation in food production; products and services in health, leisure time, culture and tourism</td>
</tr>
<tr>
<td>Burgenland 3</td>
<td>Smart processes, technologies and products</td>
<td>Opto-electronics; mechatronics; smart application of materials</td>
</tr>
<tr>
<td>Vienna 1</td>
<td>Creation of supporting framework conditions (including ‘welcome culture’; start-up support; gender mainstreaming; focus on selected thematic areas [see right column); shared infrastructure facilities; regional cooperation in the “Greater Vienna Area”; innovation in education etc.)</td>
<td>Life sciences; ICT; creative industries; humanities, arts and social sciences; mathematics and physics; smart city technologies and innovative production technologies</td>
</tr>
<tr>
<td>Vienna 2</td>
<td>Innovative city administration (incl. Living Labs, Policy Labs und Proof of Concept; innovation oriented public procurement etc.)</td>
<td></td>
</tr>
<tr>
<td>Vienna 3</td>
<td>Creation of an innovative milieu</td>
<td></td>
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</tbody>
</table>
### Vorarlberg

| 1) Increasing awareness for RTI (1 action area; 6 dedicated measures) | Priorities in 2016/2017 on  
| 1) New materials and production technologies  
| 2) Service innovation and service engineering  
| 3) Migration research  
| 4) Textile composite materials |

| 2) Strategic development of the science and research location (3 action areas; 9 measures) |

| 3) Increasing R&D expenditures (3 action areas; 9 measures) |

| 4) Supporting HRD and qualifications for society and economy (3 action areas; 12 measures) |

| 5) Further stimulating the R&I potentials of companies located in Vorarlberg (4 action areas; 8 measures) |

| 6) Internationalisation (2 action areas; 4 measures) |

### 3. Main initiatives and programmes

**Existing R&I Programmes to Support Cooperation with Brazil**

**Beyond Europe Programme of FFG**

“Beyond Europe” Programme provides grants for exploratory and cooperative projects of Austrian companies, research institutes, universities and other organizations. The funding is available for projects in all technical disciplines, open to all thematic fields.

All applications must be submitted by an Austrian company. Cooperative research and development projects must involve at least one “Beyond Europe” partner.

Exploratory projects aimed at preparing research, development and innovation projects are funded with up to EUR 200,000 for the length of one year. In collaborative projects, several consortium partners work jointly on defined goals. These can be funded from EUR 100,000 up to EUR 500,000 per project, with a maximum duration of three years.

**EUREKA Global Stars Call with Brazil**

In 2018, together with a number of EUREKA member countries, FFG has initiated a Global Stars Call process with 3 Brazilian organizations, namely FINEP, FAPESP and EMBRAPPII. It is planned to have a joint call towards the end of 2018.

**INCOBRA Initiative**

INCOBRA (Increasing international STI cooperation between Brazil and the European Union) is a coordination and support action of the H2020 Programme that aims to focus, increase and enhance Research & Innovation cooperation activities between Brazil (BR) and European Union (EU). The project started in 2016 and will end in January 2019.

For more information and current activities: [https://www.incobra.eu/](https://www.incobra.eu/)

**ENRICH in Brazil Initiative**

ENRICH is the European Network of Research and Innovation Centres and Hubs in Brazil, working to enhance cooperation in research, technology and entrepreneurship between Europe and Brazil. Enrich in Brazil was inaugurated on 29th November 2017 in Brasília, Brazil. ENRICH in Brazil aims to become the main hub and contact point for European and Brazilian Science, Technology and Innovation Actors. The Centre will encourage and facilitate the cooperation in research, technology and entrepreneurship between Europe and Brazil by supporting and empowering all innovation actors (public & private) along the innovation (value) chain. It is an initiative of the European Union, executed in Brazil by the CEBRABIC project that has received funding from the European Union’s Horizon 2020 research and innovation programme.

For more information and current activities: [http://brazil.enrichcentres.eu/page/home/](http://brazil.enrichcentres.eu/page/home/)

**M-era.Net Initiative**

M-ERA.NET is an EU funded network which has been established to support and increase the coordination of European research programmes and related funding in materials science and engineering. M-ERA.NET contributes to EU policies and is complementary to funding schemes at regional, national and European levels, supporting the exploitation of knowledge along the whole innovation chain from basic research to applied research and innovation.

FAPESP, the State Funding Agency from Sao Paolo, has been actively participating in joint calls launched within M-era.Net since 2015.

For more information and current activities: [https://m-era.net/](https://m-era.net/)

4. Mobility schemes

Although there is no dedicated mobility programme between Austria and Brazil, number of Austrian programmes are open for participation from Brazil.

The web site [https://grants.at/en/](https://grants.at/en/) is the Austria’s biggest online database for scholarships and research grants for all academic areas and it accommodates queries for international researchers, students.

5. Financial support

The opportunities indicated in the grants.at online database also include information on financial support options for students, graduates and researchers range from classical grants and scholarships, allowances and prizes to extensive national, European and international research support programmes.

Additionally, FFG programmes provide limited amount of financial support to non-Austrian organizations if they collaborate with an Austrian entity (located in Austria). The support amount is limited to maximum 20% of the total funding.

6. Further information

- [The Austrian Research Promotion Agency](https://www.ffg.at/en/)

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The Austrian Science Fund
The Austria Wirtschaftsservice Gesellschaft mbH
The Austrian agency for international mobility and cooperation in education, science and research
Research Infrastructure Database of Austria
Statistics Austria

7. Proposals to improve STI collaboration

The Beyond Europe Strategy of Austria recommends the following measures to improve international cooperation:

- Development of existing funding programs for international RTI cooperation (bottom-up Approach)
- Implementation of Joint Calls together with funding organizations (in Brazil)
- Targeted support for the internationalization efforts for universities and non-university RTI institutions
- Establishment of joint labs, together with industry and research on excellence facilities (in Brazil)
- Targeted expansion of human resources programs, especially in the field of post-doctoral programs and industrial PhD
- Removing barriers and promotion of incoming mobility of researchers. This includes the removal of legal barriers as well facilitating the integration of the researchers
- Expansion of project-oriented cooperation in basic research to stimulate the cooperation and capacity building.
- Reinforcement of technology transfer measures (towards Brazil), with particular emphasis on (Austrian) strengths in infrastructure technologies (e.g. Intelligent Transport Systems) and sustainability technologies (such as Smart Buildings and Smart Cities).
- Expansion of the innovation protection program\(^\text{8}\) of Austria for the internationalization of the Austrian companies.
- Optimising the resources through utilization of European programmes for research and innovation such as HORIZON 2020, ERA-Net Cofund, EUREKA, COST, Erasmus + to foster cooperation with Brazil.
General introduction on the Belgian STI (policy) landscape:

Belgium is a federal country with a federal government. The federated entities are communities and regions which bear the primary responsibility for science, technology, education and economic policies. As such they control the main levers for innovation policy. Several responsibilities remain at the federal level: space; polar research; international programmes and institutes; fiscal measures (taxes); scientific research institutes regarding its own competences; access to other federal competences (labour market, social security, scientific visa, regulatory framework, etc.).

There is no hierarchy of powers between the federal government and the other authorities. The governance of the Belgian research system reflects the federal structure of the country. The Federal Science Policy office (BelSPO) coordinates science policy at the federal and runs the bodies where the different Belgian authorities meet in order to agree on international science policy issues of common interest. The regions and communities coordinate their own specific policies through the regional governments and agencies.

Consequently, the mapping is based on three pillars; “Federal” with BelSPO as main entity; “Flanders” with the Research Foundation Flanders (FWO) as main agency; and “WBI” for the agency Wallonie-Bruxelles International.

1. Cooperation frameworks

Federal

At federal level there is no cooperation agreement signed with a Brazilian entity. However, Brazil is part of the group of target countries of BELSPO for the ‘beyond Europe’ STI cooperation.

Flanders

• MoU FAPESP-FWO: signed in February 2018 – one call for bilateral research projects every three years – first call launched in March 2018.

• MoU CNPq-FWO: Signed in 2012 – three calls in 2010-2011-2012 for joint collaboration projects and one call in 2013 for bilateral research projects. There was contact in 2017 to discuss the possibilities of launching a new call, but no further actions were undertaken.

WBI (Wallonia - Brussels – International)

• CAPES – WBI (Wallonie-Bruxelles International) agreement: finances mobility grants in the frame of research projects, joint publications or events / signed 2009 / One steering committee per call, after internal evaluation by each institution

• CNPq-FNRS agreement: finances mobility grants in the frame of research projects / signed 1994 and renewed 2009 / One steering committee per call, after internal evaluation by each institution

• Flanders, Wallonia and Harbor Secretary: exchange of experience and information in waterways management & training signed 2010 /No steering committee foreseen

• Agreement creating the IBE (Institut Brazil Europe) between Université Libre de Bruxelles, some others
European universities (Brunel, La Sapienza, ENA, Porto, Karlstads Universitet, Freie Universität Berlin) and Brazilian universities (USP, UNESP, UNICAMP, UFSC, UFG, UFMG, UFPI, UFPA) / signed 2010 / Should meet on a quarterly basis - Two steering committees were held in order to prepare the FP7 ICT Smart Cities call.

- MoU between Centre Spatial de Liège (CSL) and Brazilian Spatial Agency: topic to be developed / signed 2009 / No steering committee foreseen (never activated)
- FAPESP-FNRS agreement: finances mobility grants / signed 2016
- MoU between IPT – Instituto de Pesquisa Tecnologia and ULg – Université de Liège / signed 2016
- MoU between IPT and EWTS (small Walloon company) / signed 2017
- MoU between Inova Paula Souza & Synhera, 2 associations of higher education institutions / signed 2014
- MoU between Wagralim, agrobusiness cluster and FIEPR – Federação das Industrias do Parana / signed 2010 / No steering committee foreseen.
- MoU between Wagralim and FAPESPA – Fundação de Amparo da Pesquisa do Estado do Para / never been activated

2. Priorities

Federal

Biodiversity (and the link with ‘climate change’), in a broad sense also including anthropology.

The interest focus among others is comparative research and mutual learning on the Amazon Forest Basin and the Congo Forest Basin, being the major green lungs of the planet.

Cooperation was explored with Museu Goeldi and Para University. There is interest for cooperation in Space as well as in marine sciences.

There are no national scientific counsellors stricto sensu but a representative from the Federal Public Service of Foreign Affairs takes up the tasks of information sharing and coordination and facilitates when missions are organized. Contact: Delphine.Charles@diplobel.fed.be

Flanders

FAPESP-FWO bilateral agreement open to all scientific disciplines supported by FWO and FAPESP as long as it covers basic scientific research.

WBI (Wallonia - Brussels – International)

There is a national STI strategy with Brazil aligned with the priorities of the Walloon Region and the EU.

The policies regarding applied sciences are competencies of the Regions (Walloon Region and French speaking part of Brussels regarding this contribution), and the policies regarding fundamental sciences are competencies of the Communities (French community regarding this contribution), with the exception of space and nuclear which remain federal competencies.

At the Regional level, most of the initiatives of the Walloon Region are dictated according the 6 priority areas defined by the Walloon Region and structuring the Walloon clusters: i) agro-alimentar, ii) life sciences and health, iii) aerospatial, iv) transport and logistics, v) mechanics and engineering, vi) green technologies since 2010. It is the case of the WBI-CAPES agreement and will be the case of the MoU FAPESP-DGOEER.

At the Community level, the priorities, translated in the agreement with CNPq are the following: applied sciences, biomedical sciences, chemical sciences, human and social sciences, mathematics and physics, and finally, terrestrial, oceanographic, atmospheric and spatial sciences.

Brazil is encompassed into the frame of the EU SFIC group

The priority fields of the bilateral cooperation are health and biotechnologies, agribusiness, mechanical engineering, aerospace, transport and logistics, green technologies
There is a representative of Wallonie-Bruxelles International (French-speaking part of Belgium) in Brazil dedicated to scientific cooperation, as the main topics in research are no longer in the federal competences but in the region and community competences.

Summary of the priorities both at federal and federated levels: Aeronautics, Space and Astrophysics, Agriculture, Biodiversity, Bio- and Green Economy, Biotechnology, Chemistry and Pharmacy, Climate Change, Energy, Environment, Health, Humanities and Social Science, ICT, Innovation, Logistics and Transport, Life science, Marine Research, Material and Nanotechnology (in former BelSPO Post-Doctorates), Water, Urbanization, Sustainable Development

3. Main initiatives and programmes

Federal

Cooperation activities of BELSPO with non-Belgian RDI partners in general and so also for Brazil, are framed within:

- networking projects with federal scientific institutes
- national research programmes that open their yearly calls for cooperation with non-Belgian countries (on a co-funding basis). This is the case for the BRAIN programme www.belspo.be/BRAIN-be and the STEREO programme for Earth Observation (http://eo.belspo.be)
- biregional EU-CELAC calls for proposals. BELSPO participates in the call line ‘biodiversity and climate’, wherein Brazil also is participating.

So far no establishment of joint labs or joint institutes.

Flanders

FAPESP-FWO joint calls for research projects (See 1. Cooperation frameworks)

WBI (Wallonia - Brussels – International)

There are joint calls from CAPES-WBI, CNPq-FNRS and FAPESP-FNRS (see section 1)

In the field of green technologies, two specific workshops have been organized in Brazil, a Brazilian delegation participated to an international conference in the field in Belgium and a Belgian delegation was subsequently invited to another conference in the field. An Incobra project is contemplated to favour mobility.

The specific agency involved is Wallonie-Bruxelles International.

The Brazil Europe Institute – IBA and the joint chair USP-Université Libre de Bruxelles are examples of joint institutes and labs.

4. Mobility schemes

Federal

From 2010 to 2016, 20 incoming postdoctoral fellowships were funded by BELSPO.

Some federal scientific institutes (RBINS) were engaged in the Brazil Programme ‘Science without Borders’.

Flanders

- OUTGOING: Grants for participation in conferences, workshops or courses, long/short stay abroad in Brazil
- INCOMING: Odysseus, [PEGASUS]^2 (calls closed), basic and strategic doctoral (if EU master degree) and postdoctoral fellowships (open to all nationalities)

WBI (Wallonia - Brussels – International)

- Wallonie-Brussels excellence grant and mobility fund (out only)
- FAPESP-FRNS
• CAPES-WBI
• CNPq-FNRS
• Brazilian funding
• EU funding

5. Financial support

Flanders

The following FWO funding schemes include possible funding for foreign research groups:

• EOS - The Excellence of Science (max. 10% of total budget possible for foreign institutions as Type IV research group - [http://www.fwo.be/en/fellowships-funding/research-projects/eos-research-project/](http://www.fwo.be/en/fellowships-funding/research-projects/eos-research-project/))

WBI (Wallonia - Brussels – International)

The specific funding schemes are related to cooperation frameworks listed in section 1, from which those under Capes-WBI, CPNq-FNRS and FAPESP-FNRS have own co-funding mechanisms.

6. Further information

Federal

BELSPO weblink: [www.belspo.be](http://www.belspo.be)

Promotion activities are done in EU/Member states - Brazil frame (2014-2016).

Promotion activities are done in the framework of the promotion campaigns ‘EU/Member states - Brazil’ in the period 2014-2016.

WBI (Wallonia - Brussels – International)

Cooperation between the Walloon SME EWTS and IPT (Technological Research Institute) allowing the IPT to propose EWTS underwater tracing technology for pollutants and proposing it to its industrial partners (technology adaptation phase)

Joint projects elaborated under the INCобра call by BIOWIN cluster along with higher education Walloon institutions with CPqD, largest IT research center in Latin America located in Campinas (SP), along with other partners from Brazil and Spain.

7. Improving STI collaboration

Federal

A major challenge is to find the right negotiation and funding partner.

Some difficulties in communication have been experienced.

A successful Belgium-FAPESP activity has been organised in Brussels last October 2018. Focus given: great societal challenges (metropoles, crisis and migration), biotechnologies (agrobusiness, health and aging) and industry 4.0: bio-economy (CO2 capture, biomass) and Smart Cities (IoT, Sustainable buildings).

WBI (Wallonia - Brussels – International)

The organization of joint events is a good start for any kind of collaboration and should be encouraged. Also the fact that Brazil is no longer eligible for the EU programs represent a bottleneck since the funding is getting scarce.
1. Cooperation frameworks

Are there bilateral agreements, MoU, arrangements, etc. at national level in force? Which are the respective counterparts and the frequency of committee meetings?

Relevant Memorandums of Understanding and Cooperation Agreements actives between Denmark and Brazil on Science, Technology, Innovation:

17 Feb. 2011 - MoU on bilateral cooperation in science, technology, innovation and higher education

Parts: (a) Danish Ministry of Science, Technology and Innovation, (b) Brazilian Ministry of Science, Technology and (c) Brazilian Ministry of Education.

Objective: Collaboration within areas of mutual strategic interest, such as renewable energy and environment, agricultural and food science, health, nanoscience & technology, biotechnology, information and communication technology and governmental policy of innovation. Activities include workshops, seminars, exchange of scientists and technicians, bachelor, master students and Ph.D. students, exchange and sharing of equipment and research materials, exchange of information, joint R&D projects and programmes.

Co-operative Activities: the Danish Agency for Science, Technology and Innovation, the National Council for Scientific and Technological Development (CNPq/MCT) and CAPES/MEC will be designed as the Co-operating Authorities for implementing this MoU, according to the specific mission and financing mechanisms of each agency. The cost in promoting and administering the objectives of thus MoU such as travelling expenses, organization of seminars and publications will be taken by the co-operating authorities.

The Joint Committee (consisting of representatives from each party, including representatives from the Ministry of Science and Technology, the Ministry of Education and the Ministry of External Relations) will meet alternately, unless otherwise agreed, every three years, in Brasilia or in Copenhagen, on mutually convenient dates. The last meeting of the Joint Committee was held in Brasilia, on August 31st 2017.

Examples:

International Network Programme

From 2010-14, 54 projects with Brazilian partners have been funded from this programme: Workshops, guest lecturers, exchange of researchers, visits of Danish university delegations, R&D intensive private companies and other networking activities. Total funding provided: DKK 13,9 mill.

Bilateral research cooperation between FAPESP and the Danish Innovation Fund

From 2011-13, 7 grants have been awarded to common Danish-Brazilian research projects with a total funding of DKK 32,6 mill. A new call was published in 2015.

Innovation Centre Denmark

In 2010, a Danish innovation attaché was placed permanently at the Danish General Consulate in São Paulo and shortly after the Innovation Centre Denmark was established at the GC in cooperation between the Danish Ministry of Higher Education and Science and the Danish Ministry of Foreign Affairs.

ICD is involved organizing and funding 3-4 scientific workshops a year with Danish and Brazilian research partners within food science, welfare technologies, photonics, bio-refining and aquaculture i.e. ICD also organizes “Top Talent Denmark” events to inform about studies in Denmark and career opportunities in Danish companies in Denmark and Brazil.
MoU on Higher Education and Research between The Brazilian Federal Agency for Support and Evaluation of Graduate Education (CAPES/MEC) and the 8 Danish Universities

Promotion of exchange of students, teachers and researchers, university partnerships, joint research project etc., conferences etc. Since 2012, 121 Brazilian Ph.D./Post.doc students studied in Denmark (Full or part of program). Under this MoU a large number of bilateral MoU’s on collaboration have been signed bilaterally between specific Danish and Brazilian universities.

31 Mar. 2011 - Cooperation agreement between Denmark and Brazil

General agreement on strengthening bilateral cooperation within areas of mutual interest including global issues, international cooperation, political development, economic, commercial, climate, energy, cultural and educational fields.

Annual foreign policy consultations on State Secretary level concerning questions of actuality, for instance UN reform, human rights, climate etc. A Danish Government Growth Strategy for Brazil elaborated in 2012. A number of MoU’s have been signed under this agreement, see examples below.

Visits by Heads of State, ministerial delegations, parliamentary and commercial delegations.

21 May 2013 - MoU on bilateral economic cooperation

Extends and consolidates trade, investment and economic partnership by establishing a Joint Working Group for the Promotion of Trade in Goods and Services and Investments. Exchange of information between public and private sectors of both countries. Sectors include energy and mining, maritime transport, chemical and pharmaceutical as well as agro-industries. Focus on facilitation of business activities for SME’s.

Annual consultations presided by the State Secretary of the Trade Council of the Danish Ministry of Foreign Affairs and the Brazilian Vice-Minister of MDIC.

7 June 2013 - MoU on strengthening bilateral cooperation in maritime higher education and training and maritime issues

Collaboration within areas and activities of mutual strategic interest, such as teaching of merchant maritime competences, training of professional maritime skills, exchange of students, teachers and instructors, simulator-based training, maintenance and development.

Examples:

Since 2013 a number of students and teachers have carried out exchange programmes.

The Training Ship DANMARK visited Brazil in 2016, during the Olympic Games in Rio de Janeiro.

14 Aug. 2013 - MoU on cultural (museum) cooperation between The Danish Cultural Agency and Instituto Brasileiro de Museus (IBRAM)

Exchange of knowledge and best practises within education, accessibility to museums, exhibitions, research and exchange of museum professionals and experts.

Examples:


22 May 2014 - MoU on the cooperation in the field of health products and drug administration

Facilitation of the mutual exchange of information and expertise on matters pertaining to health products and drug administration. Exchange of information, including information on best practices, exchange visits of staff and professionals etc.

29 April 2015 - MoU on the cooperation between The National Maritime Waterway Transportation (ANTAQ) and the Danish Maritime Authority

Parts: Danish Maritime Authority (DMA) of the Kingdom of Denmark and National Waterway Transportation
Agency (ANTAQ) of the Federative Republic of Brazil.

Objective: Promoting greater maritime cooperation including on policy implementation, exchange and training of experts and technicians. Joint research projects, exchange of information, sharing education methodologies, seminars etc.

16 Mar. 2016 - Cooperation in Relation to Innovation and Digitalization to Increase Transparency and Efficiency

Parts: Ministry of Planning, Budget and Management of the Federal Republic of Brazil and the Ministry of Business and Growth of the Kingdom of Denmark

Objective: The goal of the three-year cooperation agreement (2016-2018), which is financed through the Danish Ministry of Foreign Affairs, is to increase innovation and digitization of the public sector in Brazil. The agreement aims to include help to pave the way for growth of Danish companies in the South American country.

Co-operative Activities: Launching of the innovation lab G*NOVA in Brasilia, in August 2016, greatly inspired by the Danish MindLab – a development unit under the Ministry of Business and Growth.

30 Aug. 2017 - Research Collaboration Agreement between São Paulo Research Foundation and Danish Agency for Science and Higher Education

Parts: São Paulo Research Foundation and Danish Agency for Science and Higher Education (DAFSHE) valid for a period 5 (five) years

Objective: To encourage and ensure scientific and technological cooperation between researchers from Denmark, and from the State of Sao Paulo, Brazil, through the funding of joint research and innovation activities, as:

A. Implementation of joint research projects on issues of common concern, including exchanging knowledge and results;

B. Organization of scientific and technological events to promote interaction between the parties and research groups relevant to both parties, with the goal of identifying future areas for cooperation;

C. Activities of scientific exchange, including but not limited to scientific exchange visits workshops and bilateral scientific seminars;

Funding: For each of the research and innovation activities that are approved, the DAFSHE will assume the funding of research teams from Denmark and FAPESP of the research teams from the State of Sao Paulo, Brazil, in all cases according to their national rules and regulations and budget availability.

2. Priorities

Is there a national STI strategy with Brazil?

Brazil is a strategic focus area for the international activities of the Ministry of Higher Education and Science. Through bilateral cooperation agreements and innovation centres abroad, The Ministry of Higher Education and Science seeks to increase the internationalisation of Danish science.

The Ministry has a number of internationalisation initiatives with the purpose of increasing the exchange of knowledge between Danish and foreign knowledge environments such as:

- Bilateral cooperation on research cooperation with countries outside the EU in academic areas, where both countries are strong.

- The establishing of Innovation Centres in leading science, innovation and business clusters abroad.

The bilateral cooperation with Brazil and the establishment of the Innovation Centre in São Paulo are elements in this strategy.

Is Brazil encompassed into a regional STI strategy with this country?

No.

Which are the STI priority fields of the bilateral cooperation?
Green technologies, ICT, health and bioech, food and agriculture.

*Are there national scientific counsellors in Brazil?*

Yes, there is science and innovation attaché at Innovation Centre Denmark in Sao Paulo at the Danish General Consulate.

The Ministry of Science and Higher Education has, together with the Ministry of Foreign Affairs, established Innovation Centres in Shanghai, Silicon Valley, Munich, São Paulo, New Delhi, Seoul and Tel Aviv.

The task of the centres is to ensure Danish companies and research institutions access to foreign knowledge, networks, technology, funds and markets.

The Innovation Centres are established in the knowledge hot-spots of globalisation. The main task is to create contact to leading international research, innovation and business environments.

### 3. Main initiatives and programmes

*Are there joint calls or coordinated actions?*

There are joint called between Fapesp and Innovation Fund Denmark (an independent public foundation under the Danish Ministry of Science and Higher Education).

In May 2018, the first Joint Call between Fapesp and University of Copenhagen, Faculty of Science opened (SPINT programme). Up to two projects may be funded.

*Are there any specific bilateral initiatives or programmes?*

The International Network Programme under the Ministry of Higher Education and Science supports networking activities between Danish and Brazilian researcher.

Danida Fellowship Centre under the Ministry of Foreign Affairs supports research projects between Danish and Brazilian partners within “Healthcare management and non-communicable diseases (NCDs)” and “Intellectual property rights (IPRs)”.

*Are there specific agencies involved?*

The Danish Agency for Science and Higher Education under the Danish Ministry of Higher Education and Science.

*Are there joint institutes or labs?*

No.

### 4. Mobility schemes

Scholarships for postgrad and PhD students are available to Brazilians and students from other selected (Non EU) countries through the cultural agreements programme under the Ministry of Higher Education and Science.

All full PhD and Postdoc positions at Danish universities are announced publicly and open to international applicants including from Brazil. PhD-students and postdocs enrolled in full degree programmes and positions at Danish Universities receive a salary independent of nationality.

### 5. Financial support

*Which are the specific funding schemes?*

- The International Network Programme
- The bilateral collaboration and joint calls between Innovation Fund Denmark and Fapesp
- The Danida Fellowship Centre calls for research proposals in Windows 2
- The Fapesp-University of Copenhagen collaboration on SPRINT

*Are there agreed co-funding mechanisms and reciprocal access?*
Projects under the bilateral collaboration between Fapesp and Innovation Fund Denmark are co-funded and access is reciprocal. The same is true for the Fapesp-University of Copenhagen collaboration under SPRINT.

The remaining calls for proposals are open to applications from a Danish researcher (main applicant) in collaboration with Brazilian partners. Activities in both Denmark and Brazil are funded from the Danish side.

In general, all public research calls and grants in Denmark are open to international collaboration and grant money can be used to financially support the activities of an international partner abroad.

6. Further information

https://ufm.dk/en/research-and-innovation/international-cooperation/global-cooperation
http://brasilien.um.dk/en/innovation-centre-denmark/
http://icdk.um.dk/
https://www.linkedin.com/showcase/9480124/

7. Proposals to improve STI collaboration

It is a considerable bottleneck that Brazil is no longer eligible for EU funding from H2020. Furthermore, it is the impression of ICDK that the possibility of and process for obtaining co-funding from the different Brazilian FAPs is considered complicated and uncertain by researchers.
1. Cooperation frameworks

A - EU-Brazil S&T Cooperation Agreement
- MRE and MCTI (Brazil) plus RTD and JRC (EU) meeting (bi)annually
  A1 – EC.JRC-MCTI Cooperation Arrangement
  - Signed and entered into force on 24 January 2013, renewed until 2023.
  - MCTI (Brazil) and EC.JRC (EU), annual videoconferences
A2 - EC-CONFAP Implementing Arrangement on the European Research Council
- Signed and entered into force on 13 October 2016
- CONFAP/FAPs, CNPq and CAPES (Brazil) plus EC.RTD-ERC (EU)
A3 – EC-MCTI Cooperation Arrangement on the COPERNICUS programme
- Signed and entered into force on 8 March 2018
- AEB and INPE (Brazil) plus ESA, EUMETSAT and EC.GROW (EU)
A4 – EC.RTD-CNPq/FINEP/CONFAP Administrative Arrangement
- Signed and entered into force on 22 May 2018
- CNPq, FINEP and CONFAP (Brazil) plus EC.RTD-ERC (EU)

B - Euratom-Brazil Fusion Cooperation Agreement
- Counterparts: MRE, MCTI and CNEN (Brazil) and RTD (Euratom) meeting regularly

2. Priorities

The updated STI strategy with Brazil is included in the EC staff working document on ‘Priorities for international cooperation in research and innovation’. Implementation through:

- Strengthening the EU excellence and attractiveness at bilateral and regional level by creating win-win situations and cooperating on the basis of mutual benefit:
  - Implementing Arrangement EC-CONFAP
  - Guidelines on co-funding mechanisms by States’ Research Support Foundations (FAPs)
  - Use of adequate structure of National Contact Points (NCPs)
  - Success of bilateral projects INCOBRA and CEBRABIC/ENRICH
  - Use of the EURAXESS Brazil portal to support researchers’ mobility
  - Potential extension of co-funding mechanisms to other federal agencies
  - Dissemination, also with EU Member States and Associated Countries (MSs/ACs)
• Tackling global challenges together with Brazil by developing effective solutions more rapidly and by optimising the use of research infrastructures:
  - Zika related projects, workshops and other actions
  - Joint Calls on Information & Communication Technologies (ICT)
  - Coordinated call on Advanced Biofuels.
  - Antimicrobial Resistance (AMR)
  - Collaboration under Horizon 2020 in topics specifically contributing to achieve the Sustainable Development Goals (SDGs)
  - Collaboration in eight Technical Collaboration Programmes (TCPs) of the International Energy Agency (IEA), in particular four TCPs under the ‘Renewable Energy & Hydrogen Working Party (REWP)’, two TCPs under the ‘Fossil Fuels Working Party (WPFF)’ and two TCPs under the ‘Fusion Power Coordinating Committee (FPCC)’
• Supporting the EU external policies on STI by coordinating with other EU policies making R&I an integral part of a comprehensive package of external action:
  - Interaction with Sector Dialogue Support Facility of the Partnership Instrument
  - Participation in the Public Diplomacy events of the Partnership Instrument.

⇒ Regarding cooperation at regional level, Brazil and the EU are embedded in common strategies, in particular under the frameworks of:
• Atlantic Research and Innovation Cooperation related to the All-Atlantic Ocean Research Alliance, representing a tri-regional approach by EU, Brazil and South Africa having signed the ‘Belém Statement on South Atlantic R&I’.
• The Mission Innovation is a global initiative launched at the Climate Summit held in Paris in Nov.2015. The challenge no.4, e.g. the Sustainable Biofuels innovation challenge, includes 11 countries (with Brazil as co-leader) and the EC.
• Technical collaboration with the Committee ReCyT under the Mercosur-EU Association Agreement.
• Regional R&I projects like Era-Net Lac, Alcue-Net, EU-LAC Health, ENSOCIO, Trans-Atlantic Platform, Leadership and EULAC-Focus.
• Also the completed ELAN network supported by DG DEVCO and covering eight Latin American countries, promoted technologies and business in renewables, health, biotechnology, environment, new resources, ICT and nanotechnology.
• Pending Accession Agreement of Brazil to the European Southern Observatory (ESO) signed in 2010 and approved by the Brazilian Congress in 2015, with ratification pending on the signature by the Brazilian President.
⇒ The bilateral priority areas are mainly reviewed and endorsed by the Joint Steering Committee Meetings under the referred ‘EU-Brazil S&T Cooperation Agreement’:
  - information and communication technologies (ICT)
  - health (e.g. zika virus, antimicrobial resistance)
  - marine research
  - renewable energy (e.g. biofuels) and fusion energy
  - aerospace and aviation
  - sustainable development, environment and climate change
  - bio-economy and agriculture
  - research infrastructures
  - nanotechnology
Also under the Sector Dialogue Support Facility several bilateral projects on various thematic areas including ICT are financed. Three projects are presently executed on Nature Based Solutions, Innovation and Twinning of activities. They represent also a solid basis for reinforcing or launching major collaborative actions.

The relevance of Brazil made that twelve years ago the position of STI Counsellor at the EU Delegation to Brazil was created.

3. Main initiatives and programmes

Specific joint or coordinated calls were launched:

• 4th Joint Call on Information & Communications Technology (ICT) recently closed addressing 5G, Cloud computing and Internet of things.

• 2nd Coordinated Call on Advanced Lignocellulosic Biofuels with the Brazilian BIOVALUE consortium bringing together five States and six companies, and the European project BECOOL with seven EU member states involved.

Other bilateral initiatives and programmes.

• The response to the Zika virus outbreak through a specific Call of Horizon 2020 resulting in three projects (EU budget of €30.5 million) with wide Latin American participation including 12 Brazilian entities fully financed by the programme.

• Flagship Initiatives:
  – ‘All-Atlantic Ocean Research Alliance’ aimed at tackling the scientific challenges of the Atlantic Ocean and interconnections with Antarctica.
  – ‘Safer aviation’ on impact of weather conditions on aviation, and ‘Faster aviation’ on high speed aircraft and unconventional fuels.
  – Under the ‘International Bioeconomy Forum (IBF)’ on microbiomes, ICT in food production, plant health and forestry. Engagement of Brazil is expected.

• Two bilateral projects INCOBRA (concluded in January 2019) and CEBRABIC/ENRICH aimed at promoting bilateral R&I cooperation with consortia composed of European and Brazilian partners.

On joint institutes or laboratories

• The pending ratification of the Brazilian full membership to the referred European Southern Observatory (ESO) would share common observatories and telescopes: La Silla - hosting the telescope NTT, Llano de Chajnantor - hosting the telescopes APEX and ALMA, and Paranal - hosting the telescope VLT and the future E-ELT under construction

• The final objective of the referred CEBRABIC/ENRICH project is to establish a self-sustainable Centre connecting European and Brazilian R&I and Business entities.

4. Mobility schemes

• The programme Erasmus+ on education and training also includes research mobility. It is managed by the DG EAC (Education and Culture)

• The Marie Sklodowska-Curie Actions (MSCA) provides grants for doctoral candidates or experienced researchers and encourages transnational mobility.

• The European Research Council (ERC) grants, which are open to researchers of any nationality to perform frontier research in an EU member state or associated country. Additional funding is available to researchers who are not established in Europe yet.

Bilateral arrangements as the ‘EC-CONFAP Implementing Arrangement’.

5. Financial support

• The main funding schemes from EU side are offered by EC and EEAS programmes.
• “Horizon 2020 - the Framework Programme for Research & Innovation (2014-20)”, covering all scientific areas with an estimated budget of around €79 billion.

• “Euratom Programme (2014-2018)” complementing the abovementioned Horizon 2020 and covering nuclear sciences exclusively with a budget of €1.603 billion.

• The Sector Dialogues Support Facility, managed by EEAS has supported since 2007, 23 Science & Technology projects, one of the 35 Dialogues supported by the initiative.

→ On the other side, funding schemes from Brazilian side are offered by various entities, i.e. MCTI, CNPq, FINEP, etc.

→ Also specific co-funding mechanisms have been agreed with Brazil in order to facilitate their participation in the programme Horizon 2020.

• Based on a Letter of Intent signed in 2014 between CONFAP and the EU Delegation to Brazil (also followed by another 2015 Letter of Intent with FAPESP), nine different FAPs have presently published ‘Guidelines for the preparation of research proposals in collaboration with proposals submitted to EU Horizon 2020’ with specific procedures for assessing case by case participations of entities from their States in Horizon 2020 projects.

• In order to incorporate federal agencies in bilateral actions including co-funding mechanism schemes, the ‘Administrative Arrangement’ of section 1 was signed. It is aimed to provide financial support to Brazilian participations in selected proposals of Horizon 2020, as well as to launch coordinated actions and twinning of parallel projects and to agree on dissemination policies and activities. Its Technical Steering Group reports to the Joint Steering Committee of the ‘EU-Brazil S&T Cooperation Agreement’.

• The referred Implementing Arrangement EC-CONFAP encouraging post-doctoral researchers from FAPs, CNPq and CAPES to integrate ERC research teams.

### 6. Further information

• EURAXESS is a European Commission initiative to support researcher mobility and career development. EURAXESS Brazil has been serving researchers in all fields interested in collaborating with and/or pursuing a research career in Europe since 2013. It provides information – on EU, MSs/ACs funding and opportunities, jobs, collaboration, and organizes networking and information events. EURAXESS services are free.

• Also the Tour of Brazil initiative of the EU Delegation with MSs/ACs and EURAXESS Brazil visited and presented opportunities of collaboration in about ten Brazilian States since 2014.

• The updated statistics are the following:

<table>
<thead>
<tr>
<th></th>
<th>FP7</th>
<th>Horizon 2020 (Feb. 2020)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of participations</td>
<td>411</td>
<td>204</td>
</tr>
<tr>
<td>Total number of signed grant agreements</td>
<td>167</td>
<td>128</td>
</tr>
<tr>
<td>European Research Council - number of grantees</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Marie Skłodowska-Curie – number of grantees</td>
<td>1470</td>
<td>79</td>
</tr>
<tr>
<td>EU total financial contribution to participation</td>
<td>€43 million</td>
<td>€13 million</td>
</tr>
</tbody>
</table>

The implementation of different actions of Horizon 2020, also including those with Brazilian participation, are monitored mainly by DG RTD and supported in specific cases by executive agencies such as EASME, ERCEA, INEA and REA.
In some thematic areas the implementation is also monitored by other DGs, i.e. AGRI, CONNECT, DEVCO, EAC, ENER, ENV, GROW, MARE, SANTE and TRADE. The JRC (Joint Research Centre) is dealing specifically with the so-called direct actions, in which the EC is performing directly research activities subject of collaboration with international partners.

- The main websites are the following:
  - http://ec.europa.eu/horizon2020
  - http://ec.europa.eu/research/enquiries

**7. Proposals to improve STI collaboration**

Diverse common actions can be strengthened together with Brazil, e.g. extending policy interactions, broadening co-funding mechanisms, launching coordinated actions, and improving dissemination policies.

- Assure proper policy contacts and synergies with the new administration, in particular with MRE, MCTI, MME and federal agencies, as well as with the STI Committees of the National Congress. Establish proper interactions with CONSECTI and ABRUEM to assure synergies at States’ level with STI secretaries and academia.

- Support the proper implementation of mechanisms with the Brazilian federal funding agencies CNPq, FINEP and CONFAP under the ‘EU-Brazil S&T Cooperation Agreement’, as well as under the ‘Administrative Arrangement’ and the ‘EC-CONFAP ERC Implementing Arrangement’. Engagement of FAPs in specific Calls of the Work Programmes 2018-2020 of Horizon 2020.

- Increase policy cooperation and synergies with FINEP and EMBRAPIL, aiming at deepening the interaction in supporting applied research and innovation to Brazilian and EU enterprises.

- Invite main Brazilian stakeholders to policy meetings with EC services at EU headquarters, as well as technical visits to specific EU laboratories and partners.

- Support the new Brazilian structure of national contact points (NCPs) – currently with seven institutions and fifteen nominated contacts in thematic areas - in order to improve the effectiveness of dissemination policies, especially in view of the country’s dimension and regional heterogeneity.

**Acronyms**

- ABRUEM: National Association of State and municipal Universities
- CAPES: Coordination for the Improvement of Higher Education Personnel
- CELAC: Community of Latin American and Caribbean States
- CNEN: National Commission of Nuclear Energy
- CNPq: National Council for S&T Development
- CONFAP: National Council of the State Funding Agencies
- CONSECTI: National Council of States’ Secretaries of STI
- FAPs: States’ Research Support Foundations
- FINEP: Studies and Projects Financing Agency
- MSCA: Marie Skłodowska-Curie Actions
- MCTI: Ministry of Science, Technology and Innovations
<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>MME</td>
<td>Ministry of Mines and Energy</td>
</tr>
<tr>
<td>MRE</td>
<td>Ministry of Foreign Affairs (Itamaraty)</td>
</tr>
<tr>
<td>ReCyT</td>
<td>Specialized Meeting on S&amp;T of Mercosur</td>
</tr>
<tr>
<td>AGRI</td>
<td>DG Agriculture and Rural Development</td>
</tr>
<tr>
<td>CONNECT</td>
<td>DG Communications Networks, Content and Technology</td>
</tr>
<tr>
<td>DEVCO</td>
<td>DG International Cooperation and Development</td>
</tr>
<tr>
<td>DG</td>
<td>EC Directorate General</td>
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<tr>
<td>EAC</td>
<td>DG Education, Youth, Sport and Culture</td>
</tr>
<tr>
<td>EASME</td>
<td>Executive Agency for Small and Medium-sized Enterprises</td>
</tr>
<tr>
<td>EC</td>
<td>European Commission</td>
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<td>EEAS</td>
<td>European External Action Services</td>
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<td>ENER</td>
<td>DG Energy</td>
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<td>ENV</td>
<td>DG Environment</td>
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<td>ERC</td>
<td>EC European Research Council</td>
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<td>ERCEA</td>
<td>ERC Executive Agency</td>
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<td>ESO</td>
<td>European Southern Observatory</td>
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<tr>
<td>Euratom</td>
<td>European Atomic Energy Community</td>
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<tr>
<td>GROW</td>
<td>DG Internal Market, Industry, Entrepreneurship and SMEs</td>
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<tr>
<td>INEA</td>
<td>Innovation and networks Executive Agency</td>
</tr>
<tr>
<td>JRC</td>
<td>DG Joint Research Centre</td>
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<tr>
<td>MARE</td>
<td>DG Maritime Affairs and Fisheries</td>
</tr>
<tr>
<td>REA</td>
<td>Research Executive Agency</td>
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<tr>
<td>SANTE</td>
<td>DG Health and Food Safety</td>
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<tr>
<td>TRADE</td>
<td>DG Trade</td>
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<tr>
<td>RTD</td>
<td>DG Research and Innovation</td>
</tr>
</tbody>
</table>
1. Cooperation frameworks

The main agreement is “Acordo de Cooperação Cultural, Educacional e Científica” (governmental level agreement), which entered into force on 29 of September 1990. No joint committee or equivalent linked to the agreement but it serves in various situations as a framework document on which to base the education and science cooperation with the Brazilians.

There are also the following more specific agreements:

- Agreement between CNPq and Academy of Finland (served as a basis for joint calls between 2008 and 2012 in sustainable energy and photonics).
- MoU between CNPq and Center of Technical Research of Finland VTT from 2012 on the sector of Science and technology, with emphasis on innovation and entrepreneurship.
- Cooperation agreement between FAPESP and Academy of Finland, from 2012 (served as a basis for joint calls).
- MoU between CAPES and CIMO (Finnish Centre of International Mobility), signed 2015.
- MoU between the Paraná State and Finland, with a strong emphasis on education and science cooperation.
- MoU between FINEP and TEKES for scientific, technological and industrial cooperation, and more specifically in the areas of information and communication technologies, microelectronics and technologies of naval construction (2015-2016).

2. Priorities

No written official strategy, but in practice there is a strategy of priority areas.

Brazil is included as one priority country in the Finnish Ministry of Education and Science’s international science and education cooperation planning. Ministry representative has been in crucial positions at the SFIC Brazil group during last years (SFIC Brazil group presidency and vice-presidency).

STI priority fields: bioenergy, biomass, renewable energy, clean technologies, waste-to-energy, nanotechnology, smart grids, teacher continuous education in innovative technologies.

Science and education cooperation is a top priority also in Finnish-Brazilian bilateral relations in general, which can be seen for instance through the fact that the field is the first priority mentioned in the List of Priorities for Bilateral Cooperation, document signed between our foreign ministers in August 2016.

No science counselor with diplomatic status. One diplomat who deals with science and education issues apart from other sectors. With the diplomat working in a team also one locally employed person who works 100% with science and education issues. The locally employed coordinator works from the Finnish Consulate in São Paulo, covering the whole of Brazil.

3. Main initiatives and programmes

CNPq and Finnish Academy have launched several joint calls based on their cooperation agreement, last one in 2012. FINEP and TEKES had a joint open call in 2015. Three calls CNPq-SETEC/MEC in 2015 and 2016 regarding the bilateral Programme “Teachers for the Future”. The agencies involved are the ones mentioned regarding the MoUs and calls under question number 1. No joint labs/institutes.
4. Mobility schemes

• Calls between CNPq and Academy of Finland (see above)
• Call CNPq/MEC-Setec-Finland on teacher education (see above).
• Very good cooperation with CNPq under the Programme Science without Borders.
• MoU signed between CAPES and CIMO (Finnish Center of International Mobility) in 2015 is about researcher, staff and student mobility. No call launched yet due to restructuring of CAPES’ international activities.

5. Financial support

6. Further information

The focus for Finland in Brazil is not only science and technology cooperation, but very prominently different types of cooperation in the education field, as well. In Finland we do not make a strict division between science and education and even the Ministry and Minister to cover both sectors is the same one. Therefore, mobility and research, for instance, happens both in the “science and research field” as understood in a more traditional way, and also in the field of basic, secondary and upper secondary education and teacher education. Also, several Finnish universities are not only concentrating on science and research cooperation or mobility but also are looking for partners and have established partnerships for exporting/selling their education services of different formats. In addition, several Finnish edtech companies are looking for partners and have established partnerships with Brazilians to sell their solutions. For the Finnish activities, both the public and the private sectors are very important due to the nature of our interest focuses.

Some highlights:

http://www.eduexport.fi/


http://www.brasil.gov.br/educacao/2015/12/professores-para-o-futuro-oferece-capacitacao-na-finlandia; https://www.youtube.com/watch?v=-1nRm4tQL0A

7. Improving STI collaboration

⇒ Brazilian funding agencies prefer bilateral collaboration, contracts and calls, whereas the Academy of Finland prefers multilateral projects and agreements.
1. Cooperation frameworks

French-Brazilian cooperation on STI rests on various programs created through agreements, Memorandums of Understanding (MoU), arrangements, either between ministries or agencies and institutions at national level, such as: GUYAMAZON, CAPES-COFECUB, USP-COFECUB, (cf. section 3.) or ANR-FAPESP. Most part of the time these various programs function with a yearly call and a yearly steering committee meeting dealing with assessment, selection and co-financing decisions.

The National Center for Scientific Research (CNRS) has signed agreements with CNPq, CONFAP (in addition to 14 agreements with FAPs), CNEN and FAPESP.

The Agricultural Research Centre for International Development (CIRAD) has set up 15 conventions (Five framework and academic agreements, Two MoU, Four technical conventions, agreements and projects, work plan, protocol of intent, formation of consortium) with research teams and laboratories and agreements with universities and/or institutions (five with EMBRAPA) on a topic related to agricultural research, the field in which the research is specialized in.

The Research Institute for Development (IRD) has set up 18 conventions (ten cooperation agreements, four MoU, three protocols of intent) with research teams and laboratories and agreements with universities and/or institutions.

Brazilian partners are incorporated in our strategy and committees. In 2017, the Strategic and Scientific Pilot Committee (CP2S) of IRD’s Representation includes Brazilian and French scientists (four from each country).

It should also be noticed that STI cooperation between France and Brazil could be implemented through regional and European programs or projects, such as STIC-AmSud, MATH-AmSud, regional cooperation programs between France and Latin American countries targets the field of the field of Information and Communication Sciences and Technologies or mathematics based on researchers and PHD students mobility and also European projects no framework of the “Horizon 2020” program.

2. Priorities

There is no, strictly speaking, official national STI French Strategy with Brazil, but a Strategy with Latin and Caribbean countries is in progress and could be proposed and validated by the French Ministry of Higher Education, Research and Innovation by the end of this year or the beginning of the following one.

Some of the French research institutes dealing with Brazil may have their own strategies such as follows:

CIRAD’s strategy in Brazil must be seen in the context of its broader mandate for the agronomic research in the developing world. For CIRAD, the agronomic research is an indispensable tool for the production of knowledge and innovations related to the development challenges, and must adapt to each country’s specificities and local situations.

In African countries where CIRAD has developed a long-lasting cooperation, but also in CELAC countries - including the Southern Cone countries and, among these, foremost Brazil - CIRAD’s activities are aimed at contributing to scientific excellence, the creation of global public goods and the production of knowledge that can be shortly transferred to small or medium-sized farmers. These aims are shared with several Brazilian partners, which are more and more interested in developing international cooperation.

As such, CIRAD’s STI strategy for Brazil takes place within the fields of agricultural research and technology, genetic improvement, natural resources, environment, sustainable development, territories planning, global public goods, public policies, forestry and social sciences, biodiversity and agroecology. These fields of knowledge are
to be primarily applied in key regions of Brazil, namely: the Amazonian region and the Semi-arid Northeast. These STI activities also take place in other biomes, such as the Cerrado.

CIRAD’s activities in Brazil are built up under the monitoring and upon the support of a Regional Director for Brazil and Southern Cone countries. Also, they are effectively carried out by 16 researchers based in different areas of the country, mainly in the North, Northeast and Central-West regions.

The priorities of the IRD, which has one representation based in Brasilia, are defined by partners and discussed in scientific committees in France. The STI priority fields of the bilateral cooperation include all challenges related to sustainable development policies that include the following subjects: Management of the water resources; vulnerability of the natural resources linked to climate change and desertification process; use of renewable energy; protection of the biodiversity; agroecology; food security; integrated management of coastal and marine environments; sustainable development of the cities; migration and urbanization.

3. Main initiatives and programmes

The programme CAPES/COFECUB (Committee for the Evaluation of Academic and Scientific Cooperation with Brazil) agreement, one of the main and enduring instruments of the Franco-Brazilian university cooperation since 38 years, enables French and Brazilian researchers to set up high-level common research projects and contributes to the creation of a solid and constant network of exchanges at university level. In almost 40 years of existence, this programme has allowed to train around 3000 PhD students and post-doctorals. (NB: CNRS researchers and/or CNRS units are quite present in the CAPES/COFECUB programme, with 65 active projects among 100).

GUYAMAZON is a Franco-Brazilian trans-border research programme planned to encourage and support projects to develop research, training and innovation through collaboration between scientists from French teaching and research institutions (principally from French Guiana) and their counterparts in the Brazilian states of Amazonas, Amapá, Maranhão and Pará (though their FAPs - Fundações de Amparo a Pesquisa). IRD, CIRAD and CNRS are involved in this project.

In the geographic zone overseen by the Consulate in São Paulo, professorships have been put in place since 2011 with USP, UNESP and UNICAMP. They cover all areas of research, but humanities represent 50%. Since there have been 150 laureates, 17 this year and 7 next year. As for the modalities, the participation of Brazilian universities amounts to 11000 R$ per month for a period of two months. Also, the salary paid by French institutions is maintained and the plane ticket is covered by the Consulate.

Other French Research Institutes such as the National Institute of Health and Medical Research (INSERM) and Institut Pasteur in the field of Health have developed partnerships with FIOCRUZ and Brazilian universities, or Institute for Research in Computer Science and Automation (INRIA) with LNCC. The agreement between the Alternative Energies and Atomic Energy Commission (CEA) and Instituto Butantan to conduct exchanges between students and researchers of both countries, focusing on the theme of Toxinology and Vaccines, is being renewed.

In 2017, CNRS is involved in 55 projects in Brazil:

- **One International Joint Unit (UMI):** In 2005 was created the first International Joint Unit (UMI) between CNRS and IMPA. This was a result of a strong and long collaboration in mathematics between France and Brazil. In 2017, the UMI has been renewed and named after Jean-Christophe Yoccoz, french mathematician, honorary research fellow at the IMPA and Fields Medal winners in 1994. This laboratory brings together researchers, students, postdoc and support staff from CNRS and IMPA in a common laboratory based in Rio de Janeiro. The Director of the UMI is jointly named by CNRS and the foreign partner institution(s).
  

- **Eleven International Associated Laboratories (LIA):** structured collaboration between laboratories, a thematic institute of the CNRS and a laboratory from another country during a four year period (possibly renewable once). The relationship is formalized through a contract signed by the heads of both organizations, with provisions covering issues like intellectual property rights. While retaining their separate autonomy, status, Direction and location, the research teams put in common human and material resources to conduct a jointly designed programme.
• **Five International Research Networks (IRN/GDRI):** a scientific coordination network gathering research teams in European and non-European countries, created for a four year (possibly renewable once), with activities supervised by a scientific committee.

• **Fourteen International Programmes for Scientific Cooperation (PICS):** a three year project supported via a CNRS annual call.

• **Twenty Joint Research Projects (PRC):** a two or three year project supported via annual bilateral calls, CNRS/FAPESP in the state of São Paulo and CONFAPI/INRIA/INS2I for topics related to Information and Communication Science and Technology.

• **Four regional projects (STIC AmSud and Math-AmSud):** two year projects supported by regional South American annual calls.

CIRAD is involved in **four initiatives** under the banner of the “**Platform in Partnership in Research and Training**”:

- International Advanced Biology Consortium (dP CIBA),
- Forests, Agriculture and Territories in the Amazon (dP Amazonie),
- Public Policies and Rural Development in Latin America and the Caribbean (dP PPAL),
- the Observatory for Environmental Research (ORE).

These platforms should enable a better respond locally to big development challenges by the production of knowledge and the strengthening of partners’ capacities. The dP are organized in different forms: research mechanisms placed in one or more countries, thematic transnational networks, scientific observatories linked to development.

IRD is involved in the following initiatives:

• **International Mixed Laboratories (LMI):** tool enabling two specific laboratories one French one Brazilian to work together during 5 years with co evaluation. These laboratories include one scientific committee and one governing committee; they are dedicated to formation, teaching of students from both countries. There are three LMI in Brazil in 2017. Two of them will end in 2018 after 8 years of activity. There is a call at proposals each year at IRD to build new LMIs.

• **Young International Associated Team (JEAI):** grant to support two scientific teams that never worked together and would like to start building joint projects lasting four years.

• **South-North, South-South Mobility:** grant to invite researchers from southern countries to France or between 2 southern countries, 1 to 6 months.

4. **Mobility scheme**

**Missions conducted by CNRS**

<table>
<thead>
<tr>
<th>&gt; 6 months</th>
<th>&gt; 3 months and &lt; 6 months</th>
<th>&gt; 1 month and &lt; 3 months</th>
<th>&gt; 10 days and &lt; 1 month</th>
<th>Total number of missions</th>
<th>Average number of days</th>
<th>Total number of days</th>
<th>Equivalent full-time researchers</th>
</tr>
</thead>
<tbody>
<tr>
<td>11</td>
<td>25</td>
<td>93</td>
<td>280</td>
<td>816</td>
<td>21</td>
<td>1,0978</td>
<td>43</td>
</tr>
</tbody>
</table>
The IRD expatriates its personnel for two to four years, sends its researchers on long missions of one to three months, and delivers grants for Brazilian partners and students (South-South, South-North Mobility; scholarships for PhD positions for a period of 36 months with 18 months in France and 18 months in Brazil; post-doctoral positions for a period of 12 months).

5. Financial support

The IRD’s funding comes from the above cited tools and international call for projects. Funding comes from both countries; in Brazil 50% of IRD’s research grants from Brazilian agencies through the co-coordination of projects with Brazilian partners.

6. Improving STI collaboration

The main identified bottleneck by CIRAD relates to the availability of funds dedicated to research in Brazil, coming either from French or Brazilian sides, but also at international level (European Union, FIDA, World Bank, etc.). It would be a good idea if European funds can support specifically collective research platforms (EU Countries & Brazil), creating specific funds and calls, with CNPq collaboration and funding.

The future of IRD’s collaboration in Brazil is submitted to France STI priorities which are today mostly focused on the Sahelian countries in Africa as well the economical situations in Brazil and France to continue the tools for partnerships, expatriations and long missions. Improvements could come from a better integration of our tools for partnerships within international process and calls.

Improvements could come from a better view of “who does what and where” in order to avoid overlapping and to dedicate our resources on joint international priorities.

As expressed by CNRS, in view of the successive budgetary cuts by the Brazilian government affecting investments in research, there is mounting concern amongst French institutions and researchers in Brazil as to whether Brazilian partner scientists will have the capacity to pursue activities linked to current common projects.

7. Further information

Links:

- For CNRS: [www.cnrsrio.org](http://www.cnrsrio.org)
- For IRD: [www.bresil.ird.fr](http://www.bresil.ird.fr)
- For CIRAD: [https://bresil.cirad.fr](https://bresil.cirad.fr)
- For CAPES-COFECUB: [http://www.campusfrance.org/fr/capes-cofecub](http://www.campusfrance.org/fr/capes-cofecub)
1. Cooperation frameworks

Between Germany and Brazil over 400 bilateral governmental agreements, MoU, etc. are listed! 14 are focusing on scientific and technical cooperation:

1. Agreement on scientific and technological cooperation (1969); meeting of the joint scientific committee every 2 years
2. Agreement on cultural cooperation (1971)
3. Agreement on technical cooperation (1996)
4. Agreement on scientific and technological cooperation (1997)
5. MoU between German ministry of education and science and Brazilian ministry of education (2000)
9. MoU Amazon Tall Tower Observatory (ATTO) BMBF-MCT (2009), + Supplementary Agreements
10. Joint declaration of intent on BRA – GER science year (2009)
12. Equivalency Agreements HRK, ANDIFES, CONFIN, ANUP, ABRUERAM, ABRUC (2011)
13. MoU between EMBRAPA, German ministry of education and science and German ministry of agriculture
14. MoU between German ministry of education and science and Brazilian ministry of education on vocational education (2012) - had not been extended

In addition, a “Strategic Partnership between Brazil and Germany” has been established in 2008. Under this partnership so-called Governmental Consultations (i.e. high ranking meeting between President, Chancellor and Ministers) are foreseen. Last meeting in August 2015; in the field of science and technology the following have been documented:

- Joint declaration on Brazilian-German cooperation on education, science, technology and innovation,
- MoU Marine Research
- MoU Rare Earth
- MoU Bioeconomy
- Joint Declaration on Amazon Tall Tower Observatory (ATTO)

Additionally, on the ministerial level (MCTI and BMBF) we have regularly join committee meetings (last 2013), in which the science and education ministries meet to define their priorities and cooperation scheme.

Below the governmental level all major German research organizations have several agreements and MoUs with their Brazilian partner organizations such as:
1. DAAD – German Academic Exchange Service (Research Funding Organisation):
   - DAAD-authorization by presidential decree (1996) and registration as „Pessoa Jurídica“
   - Cooperation agreement DAAD-CAPES (1998)
   - Cooperation agreement on strategic partnership DAAD-CAPES (2009)
   - MoU DAAD-CAPES (2011)
   - MoU DAAD-CNPq (2011)
   - MoU DAAD-CAPES Ciência sem Fronteiras (2013)
   - MoU DAAD – CAPES Network for law, social and globalisation knowledge

2. DFG – German Research Foundation (Research Funding Organisation):
   - MoU between DFG and CAPES (2007)
   - MoU between DFG and CNPq (2007)
   - MoU project BRAGECRIM (DFG, CNPq, CAPES, FINEP) (2008), (2009),
   - MoU between DFG and FAPEMIG (2011)

3. AvH – Alexander von Humboldt Foundation (Research Funding Organisation):
   - Letter of Intend Brazilian-German Frontiers of Science and Technology Symposia between AvH and CAPES (2010)
   - MoU between AvH and CAPES (2011)

4. FhG – Fraunhofer Gesellschaft (Research Organisation):
   - MoU between FhG and IPT on research cooperation and exchange of scientists (2009)
   - MoU between CNI-MCTI-FhG EMBRAPP II (2012)
   - MoU between FhG and CNPq (2011)

5. In addition, other research organizations have specific agreements such as: MPG – Max-Planck-Gesellschaft (see ATTO), HG – Helmholtz Gemeinschaft, MoU between GEOMAR Helmholtz Zentrum and Federal University of Pernambuco (2012), Higher Education Institution, MoU between Embrapa and Universität Göttingen (2012) or MoU VDI – FNE Ingenieurhochschule (2010).

2. Priorities

There is no regional STI strategy with Brazil on a national level. The priorities of cooperation are flexible and changing over time. In our first agreement from 1969 nuclear, aerospace, aeronautic, maritime, IT and documentation were the main focus. In 2007, the focus was: Biotechnology, land use, environment, transport, water, energy, health, etc. In 2013 the focus was extended to: innovation, life science, material science, production technology, sustainability, etc. In 2015, rare earth, SME and political frameworks were added.

Below the governmental level several research organizations or higher education institutes have developed a STI strategy within the framework of the Internationalization Strategy of our Government. That is why, for example, universities such as the Technische Universität München (TUM), the Westfälische Wilhelms-Universität Münster (WWU Münster) and the Freie Universität Berlin (FU Berlin) are permanent members in the German House for Science and Innovation (DWIH) in Sao Paulo.

And yes, we do have a scientific counsellor in Brasilia (1) and in Sao Paulo (1/2), plus 1,3 supporting staff in Brasilia.

3. Main initiatives and programs

3.1. Are there joint calls or coordinated actions?

Yes, there are several joint calls on the federal level (BMBF/MCTI), regional level (BMBF/FAPESP) as well as on organizational level (DFG, DAAD, AvH etc. together with CAPES and others).
3.2. **Are there any specific bilateral initiatives or programs?**

Yes, as mentioned before (see point 1) there are several new initiatives or programs, in particular in the fields of bio economy and rare earth. The BMBF alone promotes 21 mobility and definition projects, to mention specially the programs CLIENT, CLIENT II, BRAMAR, INTEGRAL, COBI, REGINA, INNOVATE, ATTO and Bioeconomy International.

At the level of research organizations, such as DAAD and DFG, the programs UNIBRAL and PROBRAL on the one side and graduate colleges and the program BRAGECRIM on the other side should be highlighted.

3.3. **Are there specific agencies involved?**

No, basically all German research organizations and higher education institutes are involved or qualified for an involvement.

3.4. **Are there joint institutes or labs?**

Yes, especially the Fraunhofer society holds so-called Project Centers such as the Project Center for Innovation in Food and Bioresources in Campinas and the Project Center on Software and Systems Engineering in Salvador. A third center is right now in the planning phase.

In addition, most recently, we founded 2 institutes in social science together with our Brazilian partners, i.e. the Maria Sibylla Merian International Centre for Advanced Studies in the Humanities and Social Sciences in Latin America and the Caribbean in São Paulo and the Center for German and European Studies in Porto Alegre.

4. **Mobility schemes**

There are different mobility schemes in place, typically with the DAAD, DFG and AvH. In addition, all major research organizations as well as some higher education institutes in Germany have their own mobility schemes. On top there are all kinds of other mobility schemes from foundations and others, e.g. “Bundeskanzler-Stipendium” (The German Chancellor Fellowship Program) or the programs of or political foundations.

5. **Financial support**

Normally co-funding mechanisms (50:50) are the basis of our scientific cooperation, but there are also exceptions possible, depending on the topic, the region or the Brazilian partners.

6. **Further information**

One highlight in our scientific cooperation is the Amazonian Tall Tower Organization (ATTO) for observation and understanding of the role of the tropical Amazonian Ecosystem under climate change conditions. This project between the MPG and INPA to build a 320m high tower in the middle of Amazonia (ca. 100 km north from Manaus) is a big facility project started almost 10 years ago that cost more than 10 Million EUR.

Another highlight of our scientific cooperation is the German House for Science and Innovation (DWIH) in Sao Paulo. In this house most of German Research Organizations as well as some higher education institutes are members and even with staff present, to promote the German/Brazilian scientific cooperation. It is a unique one-stop-shop, which facilitates information, launches its own projects, organizes conferences and workshops and initiates new partnerships.

7. **Improving STI collaboration**

One of the biggest limitations recently is the budget cuts. After significant cuts in the Brazilian S&R budget in 2015, 2016 and 2017, our main focus is to maintain the level of cooperation rather than to start new projects and activities. In some cases however we were obliged to terminate projects, restrict them or extend them in time. In some rare cases we could start some new projects on a lower level.

Another limitation is a lack of reliable statistical data and up to date information on the different science fields. Proper analyses and SWAPs are in most cases not possible and led in consequence to unfocused (blind flight) S&T cooperation strategies.

A third limitation is the permanent staff changes and the lack of continuity. In the last 4 years, I personally experienced at least 6 minister changes, which are followed by staff exchange down to director’s level in the ministries.
Finally, the bureaucratic barriers, when importing High-Tec products needed to conduct specific research, are demotivating and time consuming.

**Proposal for improvement**

As a proposal for improvement one idea could be to facilitate relevant S&R information translated and analyzed to all member states on a regular basis.

Another idea would be to organize from time to time high ranking conferences with all key-players from both sides targeting actual and relevant science policy issues.

In the long run, agreements between Brazil and EU-Member States should be replaced by Brazil–EU agreements, which cover all Member States.
1. Cooperation frameworks

MoU was signed with Brazil (December 2016) which enables Brazil to take part in the Stipendium Hungaricum Scholarship Programme, launched in 2013 by the Hungarian Government.

2. Priorities

No Scientific Counsellor in Brazil. However there is an attaché for educational matters, based in São Paulo.

3. Main initiatives and programmes

N/A

4. Mobility schemes

Stipendium Hungaricum Scholarship Programme, launched in 2013 by the Hungarian Government. The programme is based on bilateral educational cooperation agreements signed between the Ministries responsible for education in the sending countries/territories and Hungary or between institutions. It is important to note that Brazil is the country with the highest quota in the programme (250 scholarships annually). Students can apply for study programmes at bachelor, master and doctoral level, and preparatory courses as well.

5. Financial support

N/A

6. Further information


Two Brazilian higher education associations, the Grupo Coimbra de Universidades Brasileiras and ABRUEM are going to visit Hungary this year:


1. Cooperation Frameworks

There is no STI-specific cooperation agreement between Brazil and Ireland, per se. However, in December 2010, an Agreement for Cooperation in the field of Education between the Government of Ireland and the Government of the Federative Republic of Brazil was signed.

In October 2012, a further Education Agreement with Brazil was signed by the National Council for Scientific and Technological Development (CNPq) of the Federative Republic of Brazil, and Science Foundation Ireland and the Higher Education Authority (HEA) of Ireland, to enable Ireland’s participation in Brazil’s ‘Science Without Borders’ programme.

Science Foundation Ireland has signed cooperation agreements, or memoranda of understanding, with all FAPs (Brazilian research funding agencies), as well as CONFAP, the umbrella FAP organisation; however, only a handful are active. The Irish Research Council has recently signed a memorandum of understanding with FAPESP (FAP for Sao Paulo). There are a number of ongoing initiatives being managed between Irish higher education institutions and research agencies, and over 100 Brazilian partners, at an institutional level. There are also a number of collaborative links between Irish and Brazilian partners through the EU’s Horizon 2020 programme, including the All Atlantic Ocean Research Alliance, and initiatives in the areas of food security, sustainable agriculture and forestry, marine, maritime and inland water research, bioeconomy, and ICT (e.g. EU-BR FUTEBOL and EUBrasilCloudFORUM projects).

2. Priorities

Innovation 2020, Ireland’s strategy for research and development, science and technology, was launched in December 2015 and guides efforts to make Ireland a global leader in innovation through domestic investment and promotion of international collaborative research. While there is no national STI strategy in place specifically for Brazil, nor is Brazil encompassed into a regional STI strategy, work carried out by Research Brazil Ireland over the period 2013-2015 developed research links between partners in the two countries across the following five thematic areas, which continue to guide bilateral cooperation at institutional level today:

- Information and Communication Technologies (ICT)
- Environmental Science and Technologies
- Advanced Materials and Nanotechnology
- Biopharmaceuticals, Biotechnology and Health
- Sustainable Energy and Agroproduction

3. Main initiatives and programmes

In recent years, international collaboration in R&D with Brazil was supported through Science Foundation Ireland’s Research Brazil Ireland (RBI) programme, which operated in the period 2013-July 2015 (RBI has since been discontinued). RBI coordinated the first Brazil-Ireland Science Week which was held in Dublin in February 2015. In April 2018, a Brazil-Ireland Research Contact Event took place in Rio de Janeiro focused on advancing existing research collaborations and establishing new projects of co-operation in line with the objectives of the Irish and Brazilian Governments’ International Education Strategies.
4. Mobility Schemes

A new mobility scheme, entitled the Government of Ireland Academic Mobility Programme, was launched in 2017 to enable staff from public and certain private higher education institutions to undertake collaborative exchanges and activities with partner institutions in high potential international markets, including Brazil. Another, pre-existing scheme, called Government of Ireland International Education Scholarships, continues to award high calibre students from non-EU/EEA countries to study full time in Ireland for a period of one year.

As noted earlier, Science Foundation Ireland has signed memoranda of understanding (MOUs) with 20 FAPs around Brazil, as well as CONFAP. These MoUs facilitate increased researcher mobility and collaborative opportunities between researchers in both countries. The participation by Irish higher educational institutions in the CAPES Internationalisation Programme (PrInt) is also expected to lead to increased research mobility. Ireland is one of 25 countries selected by the Brazilian authorities as a priority partner country.

5. Financial Support

Ireland

In recent years, international collaboration in R&D between Ireland and Brazil has been financially supported through SFI’s International Strategic Cooperation Award (ISCA) programme (which ran from 2012-2016), named Research Brazil Ireland (RBI) over the period 2013-July 2015. While this funding has come to a natural end (at the end of 2016), Science Foundation Ireland is maintaining dialogue with the relevant counterpart agencies in Brazil with a view to exploring mechanisms to co-fund collaborative research projects between researchers in Ireland and Brazil.

EU

Collaborative links between Irish and Brazilian partners continue to be financially supported through EU programmes, such as Horizon 2020.

Brazil

The main source of funding for collaborative links between Irish and Brazilian partners over the coming year is anticipated to come from the forthcoming CAPES Internationalisation Programme.

6. Further Information

Brazilian Secretary of State for Technological Development and Innovation, Mr Álvaro Prata, visited Ireland in November 2017, to learn more about Ireland’s successes in developing its STI sector. Secretary Prata met with agencies, government departments and other key players involved in promoting STI excellence in Ireland.

Some websites of general interest are as follows:

- A new site, EURIreland, aims to provide information to those interested in European and International education activities: http://eurireland.ie/
- Science Foundation Ireland: http://www.sfi.ie
- The Higher Education Authority: http://hea.ie/

7. Improving STI Collaboration

The Brazil-Ireland Research Contact Event that took place in Rio de Janeiro in April 2018 assisted greatly in strengthening existing relationships and partnerships between STI actors in Ireland and Brazil. It is also expected that the CAPES Internationalisation Programme (PrInt) will facilitate increased STI collaboration. Funding constraints in STI in both Ireland and Brazil remain a significant challenge, as does encouraging higher education institutions in both countries to take advantage of existing collaboration opportunities.
1. Cooperation frameworks

In the framework of the Cooperation Council between BR and IT there is a Joint Committee on ST&I, which meets every 3 years. The last was in 2015 in Brasilia and next will be in 2018 in Rome. The Joint Committee articulates on three working groups:

- Space, Physics and Astrophysics
- Innovation, Nanotechnology and New Materials;
- Agricultural Sciences, Biofuels and Food Technology

Representatives from universities, the business sector, governments and development (R&D) centers of both countries, compose the working groups.

Institutions will accompany programs, projects and lines of action arising from WG discussions from both countries, especially the MCTI (ST&I) and the MRE (Relações Exteriores) on the Brazilian side and MAECI (Affari Esteri) on the Italian side.

Primarily these Ministries support the implementation of activities and work programs, with the support from other stakeholders and participant institutions.

Below the governmental level, there are agreements among Italian Regions and Brazilian States, following decentralized policies. For example, there is a convention between the Regione Emilia-Romagna and the State of Paraná on several sectors, as health, precision agriculture, project financing with particular reference to the cooperative structure. A new agreement is in progress again on the health area, for projects aimed to reduce the pressure on hospitals by reorganizing the assistance for old people.

ST&I cooperation at lower level (companies, universities, research centers, etc.) is discussed below, on paragraph 3. In general these are agreements covering all science sectors, not only the ST&I *strictu sensu*, but also Humanity and Social Sciences.

2. Priorities

The three working groups of the Joint Committee for ST&I represent the priorities chosen by both governments. Many policies of the MAECI refer to world regions, so that also the cooperation with Brazil falls into the Italian strategy for Latin America. However, many other policies are country-specific/oriented.

Someway, the implementation of all the conventions signed by Italian universities, institutions, agencies and companies with Brazilian counterparts, actually outline indirectly a cooperation strategy, mainly consisting in a multi-thematic and multi-scheme bottom-up action.

MAECI and MIUR (Ministry of University and Research), with the contribution of other private and public institutions, defined this year a document called “Strategy for the promotion abroad of Italian higher education”. Brazil falls into the geographic regions of priority interest where system strategic interventions must be addressed.

Italy has a Scientific Attaché in Brazil at the Italian Embassy in Brasilia

3. Main initiatives and programs

3.1. Are there joint calls or coordinated actions?

Currently there are not opened joint calls or coordinated actions at governmental level. The single projects
make joint calls following their own work-program.

3.2. Are there any specific bilateral initiatives or programs?

It is on progress a bilateral agreement between the national Space Agencies for supporting a feasibility study on small satellite constellations. A space program implementation should follow the results of the feasibility study.

University of Brasilia (UnB) and the Embassy of Italy signed a new convention this year for supporting direct cooperation, mainly linked to the improvement of the Green Embassy program and to the enhancement of the Italian language and culture. A second area of cooperation supports the bilateral agreements between UnB and Italian universities.

The main bilateral programs, in terms of numbers of participants and subjects, are the conventions between universities and research institutions. In the last ten year, on average 80 new agreements per year were signed at Rectorate level, which means an estimation of more than 120 active conventions. By considering that in Italy there are about 80 universities, and that more than the half have institutional links with Brazil, this means in the average 3-4 agreements per University. However, it is likely necessary to double these figures (more than 200) for including other agreements at a level lower than Rectorate (Faculty, School, Department, individual) and out of the University network.

Many of these agreements derive from contracts supported by an external financing institution as the UE, the Ministries and national agencies (often exploiting international regional programs), the states/regions, the companies, research institutions (as for instance CNPq, CNR). Some of these agreements are multilateral, but coordinated by an Italian partner. Some other lower-level agreements are expert-oriented, where the relevance of the individual Italian researcher collaboration is more important than with the institution of membership of researchers. They look like a consultancy.

A specific program has been promoted with a convention signed between CONFAP and a network of 18 Italian Universities called Mobility Confap Italy (MCI). This agreement finances the post-graduate mobility, by the intervention of “Fundações Estaduais de Amparo à Pesquisa” (FAPs) from the Brazilian side and of the Italian network from the other side. This is a typical bottom-up approach, where 100 fellowships from the Italian side, are guaranteed by the single universities, supporting 5-6 fellowship each.

Concerning the research supported by the industry, the single companies implement their own strategies and nor always are public. Moreover they are often engaged for offering stages, sometimes involving the research. Particular attention is paid to the so-called professional masters.

Aims and ways of the cooperation are wide, by covering mobility of students and of researchers, joint projects, double degrees, capacity building, etc.

3.3. Are there specific agencies involved?

No specific Italian funding agencies are in general involved, but sector agencies yes, as is the case of national Space Agencies, cited above.

3.4. Are there joint institutes or labs?

Many projects consider the set-up of joint laboratories. In the recent past it has been quite active a joint laboratory on social health in the South of Brazil, with the participation of state institutions and universities of both countries. For Italy, the Region Emilia Romagna and the University of Bologna were involved.

Other initiatives are on study as a joint excellence center on water bio-mass, as the use of the algae for eliminating nutrients from waste waters.

4. Mobility schemes

The signed agreements implement many mobility schemes. For example a bilateral agreement between the University of Bologna and the UFMG Belo Horizonte, in force since more than 15 years, considers 5-10 fellowships for temporary mobility (3-6 months) for following lectures or developing thesis works in co-tutoring
or developing part of research, as in case of PhD fellows and researchers, or for getting the double degree. In that case, any scientific area is allowed.

MCI program represents a new important tool for mobility, specifically aimed to post-graduation activities, that is mainly addressed to research.

Many ERASMUS+ projects are nowadays active and many proposal are being prepared.

From Brazil to Italy, the mobility for students is for lectures, thesis work, full degree in Italy, post-graduate sandwich degree, or double degree. In terms of research, often there are activities of capacity building besides the development of research activities on the field or in lab. In the past program “Ciência sem Fronteiras”, Italy positioned in the 9th place as destination choice, receiving more than 4.000 students. In this case, a network of Italian Universities signed the agreement with CAPES.

From Italy to Brazil, the mobility scheme is practically the same, with more emphasis on thesis works and research activities.

In general, the mobility to/from Italy does not suffer a disequilibrium of fluxes.

5. Financial support

There are several schemes of funding. One is the fifty-fifty approach or, better, the case where each partner finances its own costs. It is typically the case of mobility agreements between universities.

We have to consider also the case where the money comes from an external institution, as for instance the EU, financing one or more partner. Part of this money often supports mobility or even is mainly concerned on mobility (ex. ERASMUS+).

A particular case is the invitation as visiting professors offered by Brazilian universities and agencies, often oriented towards Italian professors.

The Italian and Brazilian governments adopt a typical co-funding scheme when decide to support a project identified in the periodic Joint Committee for ST&I.

6. Further information

At the level of governments and national agencies, the study and realization of small satellites constellations is of main concern. It is a strategic subject, where also a strong military interest has to be taken into account. There is an international proposal from Italian Space Agency for a policy called “open space data access” which will be adopted also in case of bilateral projects.

It must be highlighted the huge number of Italian professors and researchers working in Brazil, in many institutions, not only in the Universities. This is the case, for example, of FIOCRUZ. In some sector, the presence of Italian professor is of particular relevance. This is the case, for instance, of the Aerospace Engineering at UnB where 6 professors out of 14 are Italian. The presence of many Italian professors suggested to set-up the Association of Italian Researchers in Brazil (ARIB). The large presence of Italian researchers in the Brazilian academic and non-academic sector, offers special opportunities for bilateral university cooperation, often based on personal links.

Most of international projects have their own web-site. This is the case, for example, of the UE funded projects “BeCool” and “BioValue” coordinated by the Univ. of Bologna. It must be highlighted the importance of the role of the coordinator in many multilateral projects, typically financed by the EU. In fact, the coordinating institutions write the project program and identify the partners. Italian coordination of such projects has also the meaning of a bilateral cooperation.

The websites of Italian Embassy and Consulates report specific information for the ST&I sector on the specific pages. Some information is also available on the MAECI web-site.

It is on progress the organization of a periodic event called “Inovação tecnológica italiana no Brasil” aiming to put in evidence and enhance the contribution of the Italian research to the technological development and to the innovation of Brazil.
7. Improving STI collaboration

Main bottleneck for increasing the bilateral cooperation between Italy and Brazil is the money, mostly in case of top-down financing. This is also due to the different scheme of financing between Brazil and Italy. In case of Italy, the financing scheme is much more oriented toward a bottom-up approach, as the MCI program shows. In some way, this is partly the scheme of multilateral projects.

Another bottleneck for improving cooperation, for instance in terms of work mobility after higher education, is the problem of title recognition / revalidation. EU, more than single MS, must face this problem. On the other hand, this problem could improve bilateral cooperation when the solution is based on a double-degree policy. EU also could support this policy by defining the purpose of the policy itself and by defining some guidelines to inspire the Universities, always respecting their full autonomy.
1. Cooperation frameworks

The following bilateral agreements are currently (October 2017) active:

In 2011, the Dutch Ministry of Economic Affairs (Min EZ), the Dutch Ministry of Education, Culture and Science (Min OCW) and the Brazilian Ministry of Science, Technology, Innovation and Communication (MCTI) have signed a bilateral agreement to strengthen the cooperation in science, technology and innovation.

In November 2011, the National Council for Scientific and Technological Development (CNPq) and the Netherlands Organisation for Scientific Research (NWO) signed an agreement for scientific and technological cooperation. The agreement foresees joint research projects, joint scientific events and scientific exchange.

Since 2012, the Dutch Ministry of Infrastructure and the Environment (Min I&M) signed an agreement with the Brazilian government (represented by the principal negotiator of Rio+20) on sustainable biofuels, among other for aviation.

Since 2012, the São Paulo Research Foundation (FAPESP) and the Netherlands Organisation for Scientific Research (NWO) have an agreement for “scientific and technological research cooperation”. The purpose of this initiative is to strengthen scientific collaboration through the funding of joint research projects in areas of interest to both parties, the organization of joint events and scientific exchange / mobility.

In 2016, the Brazilian Innovation Agency (FINEP) signed an agreement with the Netherlands Enterprise Agency (RVO). The purpose of this agreement is to foster cooperation between research institutes and innovative companies between the two countries.

Also in 2016, the Minas Gerais Science Foundation (FAPEMIG) and the Dutch Taskforce for Applied Sciences (Regieorgaan SIA) signed an agreement. Foreseen joint activities are partly linked to the ongoing program Living Lab Biobased Brazil.

2. Priorities

The Ministry of Economic Affairs has appointed a Counsellor for Science, Technology & Innovation, with two dedicated local employees at the Consulate General in São Paulo. This team is part of the global Holland Innovation Network and its objective is to stimulate and support STI collaboration between the Netherlands and Brazil.

The Dutch government has defined 9 so-called top sectors. The Netherlands’ innovative top sectors are among the world’s best. The government wants to further strengthen their international position. The international agenda of these top sectors is leading for the Holland Innovation Network in Brazil.

Based on the interests from the Dutch top sectors and STI partners and their Brazilian counterparts, the following three fields currently occupy the largest part of ongoing STI cooperation:

- Life Sciences & Health
- High Tech Systems & Materials
- Biobased economy (including green chemistry and agriculture)
These priorities are also visible in the joint calls that have been launched so far (see next item) and in the joint committee meetings between the Dutch Ministry of Economic Affairs (Min EZ), the Dutch Ministry of Education, Culture and Science (Min OCW) and the Brazilian Ministry of Science, Technology, Innovations and Communications (MCTI).

A recent report on STI relations between Brazil and the Netherlands analysed co-authored publications from the period 2008-2012 which showed about 1/3 of publications on Physics & Astronomy and another 1/3 on Medicine.

3. Main initiatives and programmes

In recent years, a significant number of joint calls for R&D proposals has been launched:

<table>
<thead>
<tr>
<th>Year</th>
<th>Netherlands</th>
<th>Brazil</th>
<th>Call theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>BE-Basic</td>
<td>FAPESP</td>
<td>Biobased Economy</td>
</tr>
<tr>
<td>2012</td>
<td>BE-Basic</td>
<td>FAPESP</td>
<td>Biobased Economy</td>
</tr>
<tr>
<td>2012</td>
<td>NWO</td>
<td>CNPq</td>
<td>Biobased Economy</td>
</tr>
<tr>
<td>2013</td>
<td>NWO</td>
<td>FAPESP</td>
<td>Biobased Economy</td>
</tr>
<tr>
<td>2013</td>
<td>BE-Basic</td>
<td>FAPESP</td>
<td>Biobased Economy</td>
</tr>
<tr>
<td>2014</td>
<td>NWO</td>
<td>FAPESP</td>
<td>Sustainable Urban Development</td>
</tr>
<tr>
<td>2015</td>
<td>NWO</td>
<td>FAPESP</td>
<td>Advanced Instrumentation for Astronomy</td>
</tr>
<tr>
<td>2016</td>
<td>NWO</td>
<td>FAPESP</td>
<td>Sports &amp; Healthy Living</td>
</tr>
<tr>
<td>2016</td>
<td>BE-Basic</td>
<td>FAPESP</td>
<td>Biobased Economy</td>
</tr>
<tr>
<td>2017</td>
<td>NWO</td>
<td>FAPESP</td>
<td>Biobased Economy</td>
</tr>
<tr>
<td>2017</td>
<td>SIA</td>
<td>FAPEMIG</td>
<td>Biobased Water Technology</td>
</tr>
</tbody>
</table>

Parties mentioned in table above:

BE-Basic: public-private consortium on R&D for Biobased economy, part of Dutch top sector policy

NWO: Netherlands Organization for Scientific Research
Furthermore, on occasion also individual STI parties from the Netherlands launch calls with Brazilian organizations (smaller projects focused on exchange), for example the SPRINT call between University of Leiden and FAPESP or the expected call(s) by the Paraná Research Foundation (FAPPR) and University of Twente.

Delft University of Technology (TU Delft) and the University of Campinas (Unicamp) have launched a Dual Degree PhD program, targeting 100 dual degrees by 2025. So far, the doctoral research projects are focused on biobased economy. The importance of this program was underlined during a round table on (joint) human capital development with the Dutch Minister of Education, Culture and Science.

In 2014, Dutch and Brazilian partners joined forces in the so-called Living Lab Biobased Brazil. This consortium consists of universities, companies and governments from both countries. The focus region in Brazil is the state of Minas Gerais. The purpose of the Living Lab is to further internationalize higher education in both countries. The focus is on four themes: water technology, agro & food, green chemistry and sustainable environment.

In 2017, the University of Twente, the city of Curitiba, the Pontifical Catholic University of Paraná (PUCPR) and the Federal University of Technology Paraná (UTFPR) launched the Smart Urban Mobility Lab (SUM-LAB) in Curitiba. Researchers from each of the partners will work together in the SUM-LAB on the key challenges facing urban mobility in the metropolis of Curitiba. Innovative mobility solutions will be tested using the city as a Living Lab. The lab is located at the UTFPR.

In addition to the aforementioned Smart Urban Mobility Lab and the Living Lab Biobased Brazil:

- Maritime Research Institute Netherlands (MARIN) has set up a partnership with Oceanica in Brazil. Both parties work together on contract research for the Brazilian market and jointly operate a bridge simulator in São Paulo.

4. Mobility schemes

Besides the aforementioned Dual Degree PhD Program and exchange-oriented joint calls:

- Through Nuffic Neso Brazil, the Netherlands cooperates with the Brazilian government (Coordination for the Improvement of Higher Education Personnel, CAPES) on mobility schemes. Furthermore, Nuffic Neso, sponsored by Dutch universities, offers Orange Tulip scholarships to Brazilian students.

- Many of the Dutch universities and universities of applied science have set up agreements with one or more Brazilian universities for student exchange. In part, this is the result of the Brazilian Science without Borders program, which funded about 2,300 Brazilian students to study in the Netherlands.

5. Financial support

See information above on joint calls and mobility schemes. Many of the joint calls require co-funding by the consortium partners, on both sides (e.g. waiving of fees, in-kind contributions such as facilities and personnel, etc.). Furthermore, the Netherlands Enterprise Agency (RVO) offers a subsidy scheme (to Dutch parties) for demonstration projects, feasibility studies and investment preparation studies (DHI scheme).

And although not a bilateral support (but a multilateral), the H2020 program also provides funding. Dutch STI partners have been successful in acquiring several H2020 projects with European and Brazilian partners (e.g. on ZIKA and on advanced biofuels).

6. Further information

The Advisory Council for Science, Technology and Innovation (AWTI) advises the Dutch government and parliament on policy in the areas of scientific research, technological development and innovation. In 2016, AWTI published a report Collaborate to Innovate, describing aspects of Brazil’s knowledge and innovation system that affect Dutch-Brazilian cooperation in the field of research, technology and innovation. Extra attention is given to Brazilian-Dutch cooperation in the sectors: agriculture, biomass; water, life sciences (health care) and
aeronautics. As AWTI put it: “This selection is by no means a complete overview but rather intended as a first impression of the possibilities for Dutch-Brazilian cooperation”.

Information on the activities of the Dutch STI Counsellor can be found on Twitter @NLinnovBRA and on the RVO website, which includes articles on STI successes and opportunities in Brazil.

7. Improving STI collaboration

The continuation of joint calls is seen as essential for a productive STI relation. Per 2018, both the Netherlands and Brazil should have a new government and their priorities in STI policies, budget allocations and international relations might impact on current STI relations.
1. Cooperation frameworks

Are there bilateral agreements, MoU, arrangements, etc. at national level in force? Which are the respective counterparts and the frequency of committee meetings?

A - MoU between Ministry of Education (Brazil) and Ministry of Education and Research (Norway).
- Aim: to strengthen the cooperation in higher education, technical and vocational training and basic education.
- Joint working group established 2016, planned to meet annually.

B - MoU between Ministry of Science, Technology, Innovations and Communications (Brazil) and Ministry of Education and Research (Norway).
- Aim: to strengthen the cooperation in science and technology.
- Joint working group established 2016, planned to meet every 18 months.

B1 - Brazil & Norway 21 Strategy (BN 21) in the field of oil and gas, embedded in the MoU through the Annex signed on November 25th 2013.

C - MoUs between the National Council for Scientific and Technological Development (CNPq), the Brazilian Funding Authority for Studies and Projects (FINEP), the Research Council of Norway (RCN) and Innovation Norway (IN).
- Aim: To operationalize the objectives of the MoUs between the Norwegian and Brazilian Ministries.
- Signed in 2014.

D - MoU between Federal Agency for Support and Evaluation of Graduate Education (CAPES) and The Norwegian Centre for International Cooperation in Education (SIU).
- Signed in 2012.
- Aim: to strengthen cooperation between higher education and research institutions in Brazil and Norway. The agreement has led to more cooperation at the institutional level, in the form of joint calls, among other things. In addition, the agreement has opened the door to cooperation under Brazil’s Science Without Borders programme.
- The addendum for a new five-year period was signed in November 2017.
- Meetings between counterparts occur at least once a year, sometimes twice a year.

E - MoU between the Special Secretariat of Aquaculture and Fisheries of Brazil and the Ministry of Fisheries and Coastal Affairs of Norway.
- Signed in 2009.
- Aim: cooperation on aquaculture and other areas of common interest.
F. Biodiversity Research Consortium Brazil-Norway (BRC) – University of Oslo, Norsk Hydro, Museu Paraense Emílio Goeldi (Belém), Federal University of Pará, and Federal Rural University of the Amazon.

- Established in 2013 and renewed in 2017
- Aim: to create a research program connected to Hydro’s mining operations, strengthen Hydro’s ability to preserve the natural biodiversity of the areas where bauxite is mined.

F.1 - New research collaboration agreement between the Research Council of Norway and the State of Pará was signed in 2016.

G. MoU between the São Paulo Research Foundation (FAPESP) and the Research Council of Norway (RCN).

- Signed on September 21, 2016.
- Aim: Implement research and scientific cooperation with the State of São Paulo.

H. MoU between the Government of Norway and the Government of Brazil for the climate and forest project, which implemented the Amazon Fund.

- Signed on September 16, 2008.
- Aim: foster partnership between the two countries on issues of climate change, biodiversity, and sustainable development.
- Norway is the biggest donor to the Fund and the cooperation will continue until 2020.
- The Amazon Fund is managed by BNDES.

2. Priorities

Is there a national STI strategy with Brazil? Is Brazil encompassed into a regional STI strategy with this country? Which are the STI priority fields of the bilateral cooperation? Are there national scientific counsellors in Brazil?

➔ Strategies and priority fields:

• Panorama - Strategy for cooperation on higher education and research with Brazil, China, India, Japan, Russia and South Africa (2016–2020).
  - The objective is to view activities involving higher education and research within a more cohesive framework, with an eye to improving resource utilization and exploiting potential synergies.
  - Cooperation with these countries is to promote the following overarching priorities: Constructive interaction between higher education cooperation and research cooperation; Productive connections to working life and trade and industry; Mutual student exchange as part of institutional cooperation; Constructive interaction between bilateral and multilateral cooperation.

• The Norwegian Government’s strategy for cooperation between Brazil and Norway (Ministry of Foreign Affairs, 2011).
  - An overarching government-level strategy for cooperation between Norway and Brazil that incorporates higher education and research as key components.
  - It emphasizes that cooperation in the areas of higher education and research is important both in and of itself and for advancing the other priority areas of the strategy: private sector cooperation, trade and investment; climate and environmental issues, and sustainable development; and global challenges.

• Roadmap for Bilateral Research Cooperation with Brazil 2016 (the Research Council of Norway).
  - Identifies areas of particular relevance for expanding cooperation in the years to come. In the process of being revised.
  - States that all Research Council initiatives must include clearly-defined objectives and plans for international cooperation. The strategy also targets Brazil as one of the countries to be given special priority.

➔ STI Counsellor:
• Science and Technology Counsellor position established at Innovation Norway’s office in Rio de Janeiro.

3. Main initiatives and programmes

Are there joint calls or coordinated actions? Are there any specific bilateral initiatives or programmes? Are there specific agencies involved? Are there joint institutes or labs?

➔ Programmes:
• Research Programme on Latin America (LATINAMERIKA).
  - The programme is funded by the Ministry of Foreign Affairs and administered by the Research Council of Norway. It encompasses several countries, but certain funding announcements are earmarked for Brazil.

• UTFORSK programme.
  - The programme is funded by the Ministry of Education and Research and administered jointly by the Norwegian Centre for International Cooperation in Education (SIU) and the Research Council of Norway.

• International Partnerships for Excellent Education and Research (INTPART).
  - The programme is funded by the Ministry of Education and Research and administered jointly by SIU and the Research Council of Norway.

• Support for language studies in connection with study programmes abroad.
  - The scheme is funded by the Ministry of Education and Research and administered by the Norwegian State Educational Loan Fund.

• InternAbroad.
  - InternAbroad is a pilot initiative developed by SIU and supported by Innovation Norway. The objective is to increase the number of students from Norway who do a credit-yielding internship or work placement abroad, where they get practical experience in a job, enhance intercultural competencies and language skills, and acquaint themselves with work environments and business cultures in a foreign country. Brazil is one of the partner countries.

• The Research Council of Norway’s programmes and activities and the EU framework programme Horizon 2020.
  - Norway is a full member of Horizon 2020. Research Council programmes issue calls for proposals with funding earmarked for cooperation with selected countries.
Joint Calls:
- Calls CAPES-SIU is included in the MoU. There have been 03 joint calls (2012, 2016, 2017)
- Calls FINEP-RCN is included in the MoU.
- Calls FAPESP-RCN is included in the MoU.

Joint research center:
- FAPESP and Norwegian company Statoil will fund an Engineering Research Center in Reservoir and Production Management (ERC-RPM), in Brazil.
  - In 2017 they launched a call for proposals for establishing the center, whose focus at a strategic level will be to undertake R&D in to: Production optimization; Enhanced / Increased Oil Recovery; and Water handling.

4. Mobility schemes (in both directions)
- Support provided by the Norwegian State Educational Loan Fund is the most important measure for promoting outgoing student mobility.
- Norwegian education is free for all, including international students. Masters, PhD and Postdoc positions at Norwegian universities are announced publicly and open to all. PhD students and postdocs enrolled in full degree programs and positions at Norwegian Universities receive a salary independent of nationality. There are no specific scholarships for Brazilian students.

5. Financial support
Which are the specific funding schemes? Are there agreed co-funding mechanisms and reciprocal access?
- Joint calls between RCN and FAPESP.
- Joint calls between SIU and CAPES.
- Joint calls between RCN and FINEP.
- UTFORSK and INTPART programmes.

6. Further information
Possible highlights, marketing activities, statistical data, websites...
- https://www.siu.no/eng
- https://www.forskningsradet.no/en/Home_page/1177315753906
- https://innovationhouserio.wordpress.com/innovation-norway/
- SIU has encouraged Norwegian higher education institutions to contact their Brazilian partners to discuss how a cooperation can be developed with support from CAPES’ new internationalization program - PrInt. Norway is listed as one of the priority countries.
- The Brazil-Norway Round Table on Cooperation on Oceans Issues was held at the end of 2017. The objective of the round table was to map and discuss possible areas of cooperation between Brazil and Norway within the Oceans theme. The event was attended by representatives of the Ministries of Foreign Affairs, Environment, Defense, Mines and Energy, public agencies, research institutes, and companies. Possibilities for cooperation in the areas of environment, fisheries and aquaculture, oil, gas and mining, maritime transport, polar issues and science, technology and education, were mapped out.
7. Improving STI collaboration

*Bottlenecks and risks, proposals for improvement...*

- Risks are the late budgetary restraints and some lack of Brazilian impact studies on the value of research and education to the society and analyses of the payback potential of public spending on R&D in various sectors.

- It is difficult to get Norwegian students to choose Brazil as a study destination. Most Norwegian HEIs have exchange agreements with Brazilian HEIs, and all Norwegian students have the possibility of funding through Norwegian State Educational Loan Fund, so the structures and funding are in place. The main reason why relatively few Norwegian students go to Brazil is probably related to the language. Few Norwegians speak Portuguese, few are willing to learn the language before going to Brazil for a semester or two, and there are few courses in English offered by Brazilian HEIs. All the negative press attention related to Brazil in the last couple of years because of the economic and political crisis has also had a negative impact.

- There is potential for increased cooperation, both within research and higher education. Because of the strong ties between Norway and Brazil within trade and industry, combining internships and studies can be a good way to increase student mobility. Renewable energy and aquaculture are two areas with great potential for more research collaboration. Robotics is also an area where there is a lot of collaboration between Norwegian and Brazilian researchers, and an area where there is a lot of interest from the Norwegian side to learn from Brazil.
Guidelines for bilateral discussion

1. ACTIVE COOPERATION FRAMEWORKS

Governmental (between your country and the Republic of Brazil):

Ministerial/Federal level (number of cooperation frameworks with Ministries and Federal Agencies – CNPq, FINEP, CONFAP, CAPES, etc.):

Brazilian States Level (number of cooperation frameworks with FAPs, etc.):

2. MAIN INITIATIVES AND PROGRAMMES

Joint and/or coordinated call (in numbers):

Bilateral initiatives and programmes (in numbers):

Joint institutes and/or labs (number of common research infrastructures):

2.1. List of joint/coordinated calls on R&I

<table>
<thead>
<tr>
<th>Year</th>
<th>European Country partner</th>
<th>Brazilian partner</th>
<th>Main theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Portugal</td>
<td>MCTI, IBICT</td>
<td>Open Science</td>
</tr>
<tr>
<td>2013</td>
<td>Portugal</td>
<td>MCTI</td>
<td>Nanotechnology</td>
</tr>
<tr>
<td>2016</td>
<td>Portugal - MCTES</td>
<td>MCTI</td>
<td>Air Center</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(Air DataNet, Computation, data science)</td>
</tr>
<tr>
<td>2016</td>
<td>Portugal</td>
<td>FUNCAP</td>
<td>Particle and nuclear physics, astrophysics, cosmology</td>
</tr>
<tr>
<td>2016</td>
<td>Portugal</td>
<td>CBPF</td>
<td>Air Center</td>
</tr>
<tr>
<td>2017</td>
<td>Portugal</td>
<td>LNCC, INPE, Universidade Federal do Rio de Janeiro</td>
<td>Air Center – Air DataNet (Computation, data science)</td>
</tr>
</tbody>
</table>
3. MOBILITY SCHEMES

National schemes (number of schemes open to Brazilian participation):

Joint schemes (number of schemes usually implemented through bilateral arrangements):
3.1. List of joint/coordinates calls on mobility

<table>
<thead>
<tr>
<th>Year</th>
<th>European Country partner</th>
<th>Brazilian partner</th>
<th>Main theme</th>
</tr>
</thead>
<tbody>
<tr>
<td>2010</td>
<td>Portugal - FCT</td>
<td>CNPq</td>
<td>Nanotechnology, energy and sustainable development, health, ICT, biotechnology</td>
</tr>
<tr>
<td>2013</td>
<td>Portugal - FCT</td>
<td>CNPq</td>
<td>Biotechnology, space, marine sciences, agri-food sciences</td>
</tr>
<tr>
<td>2017</td>
<td>Portugal - FCT</td>
<td>CAPES</td>
<td>Environment, space, pharmacology, transports, urban and regional planning, ICT</td>
</tr>
</tbody>
</table>

4. MAIN COLLABORATIVE AREAS WITH BRAZIL

<table>
<thead>
<tr>
<th>MAIN COLLABORATIVE AREAS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeronautics</td>
</tr>
<tr>
<td>Agriculture</td>
</tr>
<tr>
<td>Biodiversity</td>
</tr>
<tr>
<td>Bioeconomy</td>
</tr>
<tr>
<td>Biotechnology                    X</td>
</tr>
<tr>
<td>Chemistry and Pharmacy</td>
</tr>
<tr>
<td>Climate Change                   X</td>
</tr>
<tr>
<td>Energy                           X</td>
</tr>
<tr>
<td>Environment                      X</td>
</tr>
<tr>
<td>Health</td>
</tr>
<tr>
<td>Humanities and Social Science</td>
</tr>
<tr>
<td>ICT                              X</td>
</tr>
<tr>
<td>Innovation                       X</td>
</tr>
<tr>
<td>Land use / territorial planning</td>
</tr>
<tr>
<td>Life science</td>
</tr>
<tr>
<td>Marine Research                  X</td>
</tr>
<tr>
<td>Material</td>
</tr>
<tr>
<td>Nanotechnology                   X</td>
</tr>
<tr>
<td>Nuclear                          X</td>
</tr>
<tr>
<td>Space and Astrophysics           X</td>
</tr>
<tr>
<td>Transport</td>
</tr>
<tr>
<td>Water                            X</td>
</tr>
<tr>
<td>Urbanization, Sustainable development</td>
</tr>
</tbody>
</table>
5. MAIN GOVERNMENTAL PARTNERS

<table>
<thead>
<tr>
<th>MINISTERIES</th>
<th>FEDERAL AGENCIES</th>
<th>STATES’ AGENCIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>MCTI</td>
<td>MEC</td>
<td>Others</td>
</tr>
<tr>
<td></td>
<td>CNPq</td>
<td>FINEP</td>
</tr>
<tr>
<td></td>
<td>CAPES</td>
<td>CONFAP</td>
</tr>
<tr>
<td></td>
<td>FAPESP</td>
<td>FAPs (which one?)</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td></td>
<td>X</td>
<td>FAPESC</td>
</tr>
<tr>
<td></td>
<td></td>
<td>FUNCAP</td>
</tr>
</tbody>
</table>

6. MAIN RESEARCH INSTITUTIONS AND UNIVERSITIES PARTNERS

<table>
<thead>
<tr>
<th>RESEARCH CENTRES, High Educational Institutions (HEIS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>From European country</td>
</tr>
<tr>
<td>FCT, AIR Center, Universidade do Minho, LIP, INL</td>
</tr>
<tr>
<td>From Brazil</td>
</tr>
<tr>
<td>Universities – UFRJ; Associations – SBC, Research Centres – LNCC, CBPF, INPE; Other - MAST</td>
</tr>
</tbody>
</table>

7. POSSIBLE RESEARCH STUDY CASE OR SUCCESSFUL STORIES

The Azores International Research Center (AIR Center), launched in 2016, is a project that aims at developing an international cooperation platform dedicated to integrated research in the areas of climate, earth observation, energy, space and oceans. The project involves several countries, namely Portugal, Brazil, Canada, USA, South Africa, Angola, Morocco and other European and African states.

In November 2017, the II Ministerial Summit and high-level Industry-Science-Government Dialogue on “Atlantic Interactions” took place in Florianopolis (Santa Catarina, Brasil), held by the Ministers of Science and Technology of Portugal and Brasil, for the signature of the declaration “Establishing the Atlantic International Research Center”. This has been followed by a series of technical meetings for the good development of the project.
1. Cooperation frameworks


Counterparts: - CNPq, correspondence via e-mail, Ministry of Foreign Affairs – participation of the representative of the Ministry of Higher Education, Science and Technology of the Republic of Slovenia at the 1st Meeting of the Slovenian Brazilian Joint Commission on Economic Cooperation, 2014

2. Priorities

Recognizing new Brazilian role in the international fora and new potential of bilateral R&D cooperation, the latest Slovenian Resolution on Research and Innovation Strategy 2011-2020 has put special emphasis on increasing the bilateral cooperation, amongst other emerging economies, with Brazil as well.

In the last call for bilateral research projects for the period 2012-2014 the priority areas were following: Mining with focus in recovering of degraded soils

- Agriculture (meat, fruits and soy) and agribusiness
- Health and environment
- Marine science
- Nuclear energy and dams for hydroelectricity
- New materials.

3. Main initiatives and programmes

The last call for proposals for bilateral research projects between Slovenia and Brazil was published for the period 2012-2014 (Brazilian partner CNPq)

4. Mobility schemes

In the frame of approved research projects mobility costs of its own researchers were financed.

5. Financial support

Mobility costs for researchers.

Each Party was funded the mobility costs of its own researchers (travel costs, accommodation, daily allowances, health insurance)
1. Cooperation frameworks

On the occasion of the visit to Brazil of the Spanish Prime Minister in April 2017, a Brazilian/Spanish declaration to improve cooperation in the fields of science, technology and innovation was signed. In particular, it was agreed to scale up the level of interaction between the Brazilian MCTI and the Department of Research, Development and Innovation within the Spanish Ministry of Economy, Industry and Competitiveness. As a result of this declaration, a Brazilian/Spanish Joint Committee on Cooperation, Technology on the areas of industry 4.0, smart cities, nanotechnology, renewable energies, biotechnology, aerospace technology and health applied technologies was created.

The declaration, signed in April 2017, also underlines the necessity to strengthen and expand the association between the Brazilian “Financiadora de Estudos e Projetos” (FINEP) and the Spanish “Centro para el Desarrollo Tecnologico Industrial” (CDTI). CDTI can offer user friendly and flexible support services for the implementation of R&D business projects, international exploitation of technologies developed by the company and to submit bids for industrial/technological supplies to scientific and technology organizations. Therefore, CDTI provides companies with its own funding and facilities access to third-party financing for national and international research and development projects.

In this regard, both countries welcomed the advanced negotiations for launching more Calls of jointly funding initiatives on STI and the exchange of experts and good practices from both institutions, CDTI and FINEP, or with other Brazilian institutions at State level. So, in April 2017 it was signed an agreement with FAPESP, a Sao Paulo institution, to promote and fund technologic collaboration projects between Spanish companies and companies from the State of Sao Paulo.

In addition to the above, CDTI is supporting the launching of a EUREKA GlobalStars call in 2018, in which FINEP, EMBRAPII and FAPESP act as Funding Agencies to the Brazilian partners in the cooperative projects. Moreover, FINEP has declared its intention to the EUREKA Secretariat the Brazilian interest to join EUREKA as Associate country that Spain will support in coherence with the EUREKA Internationalization Strategy approved in the Ministerial Conference of Madrid in June 2017.

On the other hand, in October 2016 an Agreement was signed on between the “Asociacion de Parques Cientificos y Tecnologicos de España” (APTE) and the “Asociacao Nacional de Entidades Promotoras de Empreendimentos Innovadores” (ANPROTEC). This promising bilateral association in the field of technological parks will contribute significantly to the development of the innovation systems of both countries.

Regarding the most recent activities, in November 2018 there was a meeting between FAPESP and the National Research Agency, in Madrid. They agreed to collaborate in Horizon 2020 programs where both agencies are participating.

And, finally, in February 2019, it was celebrated a preparatory meeting between the Minister of Science, Technology, Innovation and Communications, Mr. Pontes, and the Spanish Ambassador in Brazil, of the meeting between Spanish and Brazilian Ministers of Science, which took place in Barcelona at February, 24th.

2. Priorities

Related with the signed Agreements and the interest of both countries in the fields of science, technology and innovation, the following priorities should be highlighted:

- Financial and economic/technical assessment of R&D projects implemented by Spanish and Brazilian companies.
- Spanish participation in international technological cooperation programs with Brazil.
- Business technology transfer and support services for technological innovation between Spain and Brazil.
Regarding cooperation at regional level, Brazil and Spain are main members in the Iberoamerican Cooperation exchanging good practices in the region in the field of Science and Technology. Brazil has a leading role in the so-called “Iberoamerican Knowledge Space” through FINEP and MCTI. Brazil has a significant participation in PhasleAm Project (Genoma CYTED), which is financed by the Conselho Nacional de Pesquisa (CNPq).

3. **Main initiatives and programs**

As a result of the April 2017 joint declaration of the Brazilian President and the Spanish Prime Minister was created the *Joint Committee on Cooperation on Science, Technology and Innovation* which was convened in November 2017 in Brasilia. The Spanish delegation was led by the Vice Minister of Science and Innovation from the Ministry of Economy, Industry and Competitiveness (MINECO), Juan Maria Vazquez. The Brazilian delegation was led by the Minister of Science, Technology, Innovation and Communication (MCTI), Gilberto Kassab, who presided over the Joint Committee.

Among the participants of the Spanish delegation were the Director for European Programs from CDTI; the Operational Director for the Canaries Oceanic Platform (PLOCAN); and the Director of the Barcelona Center of Supercomputing (BSC-CNS). Among the participants of the Brazilian delegation were 5 representatives from the MCTI and the Director of the Department of Science and Technology Affairs from the Ministry of Foreign Affairs (MRE).

In November 2017, Spain was signatory to the “Florianopolis Declaration”, together with Brazil, Portugal, Angola, Cape Verde, Nigeria, Uruguay and Sao Tomé & Principe, during the second Atlantic Interactions Summit, which created the “Atlantic Interactions Research Centre”. Based in the Azores, the Air Centre will be a platform for the development of research activities on climate, land, space and ocean. It will create scientific jobs for highly qualified human resources while enabling integrated research on the Atlantic.

Besides Brazil and Spain are participating in the planning of a submarine cable linking Brazil and Portugal with en route landings at the Canary Islands, Madeira and Cape Verde. In June 2015 a joint venture between Brazilian telecoms provider Telebras and Spain’s IslaLink was signed off which will complete the communications link. It is estimated that the European Commission will invest around €25 million in the new fibre-optic infrastructure via the Building Europe Link to Latin America (BELLA) project, which was put forward by European research network “DANTE” and its Latin American counterpart RedCLARA. The project will improve communications between the two continents, facilitate ICT investments, reduce the interconnectivity costs for our businesses and researchers and enhance the protection of communications.

Finally, in 2017 was launched a Call by FINEP and CDTI for the selection of cooperative projects between scientific, technological and innovation institutions and companies for the sustainable development and economic growth of Brazil and Spain. In the same line, was done a Call by FAPESP and CDTI. As said before, a EUREKA GlobalStars Call has been launched in 2018 with participation of FINEP, EMBRAPPII, FAPESP and CDTI.

4. **Mobility schemes**

Fundación Carolina offers grants to Brazilian researchers from universities (PHD students or professors) or research institution recognized by CAPES (Coordination for the Improvement of Higher Education Personnel). For the academic year 2018/2019 were announced 24 grants.

5. **Financial support**

The main Spanish institution which offers financial support to companies in the field of science and technology is CDTI (Center for the Technological and Innovation Development), which depends from the Ministry of Science, Innovation and Universities (MCIU).

In relation with Brazil, CDTI and FINEP (Financiadora de Estudos e Projetos) work together since 1996. In the last meeting of the Joint Committee on Science, Technology and Innovation, was underlined the compromise between FINEP and CDTI of working in future Calls on joint financing of projects. In this context CDTI support to the Spanish companies and gives access to the information related with:

a) The different programs to fund R&D&I projects and set up and consolidate technology companies.

b) The instruments for the set up and strengthen of technological companies, and to promote their growth and development.
c) The different funding programs for international technological collaboration and internationalizing of the results.

Finally, it is necessary to highlight that CDTI has a regional office in Brazil, at the Economic and Commercial Office (from MINECO) in Sao Paulo, with the aim of supporting the Spanish companies that want to develop technological collaboration project with Brazilian entities.

6. Further information

7. Proposals to improve STI collaboration

The Association to EUREKA demanded by Brazil fully fits into the Open EUREKA Internationalization Strategy approved at the Ministerial Conference that closed the Spanish EUREKA Chairmanship 2016-2017. CDTI, as EUREKA High Level Representative of Spain in this Intergovernmental Initiative, shall give full support to the Brazilian request and collaborate in very close contact with FINEP for a successful and quick solution to the Brazilian request.
1. Cooperation frameworks

Brazil and Sweden signed their first Agreement in 1984. After that, several other agreements and Memorandum of Understanding were signed in the field of Science, Innovation and Technology. After that several other agreements and Memorandum of Understanding were signed (Table 1). In 2009 was signed the Brazil-Sweden Strategic Partnership new action plan which had a mechanism that created a political dialogue and guided the cooperation in the areas of: trade and investment, defense, science, technology and innovation, sustainable energy, climate change, sustainable development and cultural exchange. Both countries adopted a political dialogue and cooperation in several areas and were interested in strengthening the cooperation in the field of Innovation and Technology.

In 2013 was signed an agreement of cooperation between Finep and Vinnova. The expectation is to enhance the collaboration with development of projects, activities, seminars, workshops, exchange (students and researchers). The areas are: sustainable development and environmental innovation; Health; Biopharmaceuticals; Assistive technology; Renewable energy; Technology of information and communication and digital services. The mechanisms of cooperation are to fund projects of common interest; promote studies and research; networking visits; meeting, seminars, workshops; activities of qualification and training; information exchange.

The Brazil-Sweden Strategic Partnership new action plan was signed in 2015. In this document one of the object was to reaffirm the interest in the fields of: trade and investments; defence; science, technology and innovation; sustainable energy; climate change and sustainable development; mining; and cultural exchange.

Table 1: Agreements and Memorandum of Understanding

<table>
<thead>
<tr>
<th>Year</th>
<th>Agreements and MoU</th>
<th>Brazil counterparts</th>
<th>Sweden counterparts</th>
</tr>
</thead>
<tbody>
<tr>
<td>1984</td>
<td>Agreement on Economic, Industrial and Technological Cooperation</td>
<td>Government</td>
<td>Government</td>
</tr>
<tr>
<td>2007</td>
<td>Memorandum of Understanding on Bioenergy Cooperation, including Biofuels</td>
<td>Government</td>
<td>Government</td>
</tr>
<tr>
<td>2009</td>
<td>Brazil – Sweden Strategic Partnership new action plan</td>
<td>Government</td>
<td>Government</td>
</tr>
<tr>
<td>Year</td>
<td>Agreement or Protocol Description</td>
<td>Authority 1</td>
<td>Authority 2</td>
</tr>
<tr>
<td>------</td>
<td>--------------------------------------------------------------------------------------------------</td>
<td>-----------------------------</td>
<td>-----------------------------</td>
</tr>
<tr>
<td>2009</td>
<td>Additional protocol signed about Cooperation in High Industrial and Innovative Technology</td>
<td>ABDI</td>
<td>Vinnova</td>
</tr>
<tr>
<td>2011</td>
<td>Memorandum of Understanding in Superior Education and Research - STINT</td>
<td>Capes</td>
<td>Swedish Foundation for International Cooperation in Research and Higher Education</td>
</tr>
<tr>
<td>2012</td>
<td>Memorandum of Understanding for implementation of scholarship (Ciência Sem Fronteira)</td>
<td>Capes</td>
<td>IPO (Escrítorio do Programa de Educação e Formação)</td>
</tr>
<tr>
<td>2013</td>
<td>Memorandum of Understanding on Cooperation in the Fields of Environmental Protection, Climate Change and Sustainable Development</td>
<td>Government</td>
<td>Government</td>
</tr>
<tr>
<td>2013</td>
<td>Agreement of cooperation between Finep and Vinnova</td>
<td>Brazilian Funding Agency for Studies and Projects (Finep)</td>
<td>Swedish Agency for Innovation Systems (Vinnova)</td>
</tr>
<tr>
<td>2014</td>
<td>Memorandum of Understanding in Science and Research</td>
<td>Capes</td>
<td>Swedish Research Council (VR)</td>
</tr>
<tr>
<td>2015</td>
<td>Joint Committee on Economic, Industrial and Technological Cooperation</td>
<td>Government</td>
<td>Government</td>
</tr>
<tr>
<td>Year</td>
<td>Agreement/Cooperation</td>
<td>Organisation/Agency</td>
<td></td>
</tr>
<tr>
<td>------</td>
<td>-----------------------</td>
<td>---------------------</td>
<td></td>
</tr>
<tr>
<td>2016</td>
<td>Agreement of Cooperation and Working Plan</td>
<td>Capes</td>
<td></td>
</tr>
<tr>
<td>2018</td>
<td>Memorandum of Understanding in the field of Research and Innovation</td>
<td>Brazilian National Council for Scientific and Technological Development (CNPq), Brazilian Funding Agency for Studies and Projects (Finep), Brazilian National Council of State Funding Agencies (Confap), Swedish Foundation for International Cooperation in Research and Higher Education (STINT)</td>
<td></td>
</tr>
</tbody>
</table>

Other important cooperation frameworks are the High-Level Group (HLG) in Aeronautics and the binational Steering Group of Innovation (SGI), both established in 2015.

1. **Priorities:**
A High-Level Group (HLG) in Aeronautics was established in 2015. The High-Level Group will take strategic decisions regarding new joint activities. HLG aims to build joint aeronautical activities that will be mutually beneficial in terms of cost sharing, establish technical networks in prioritized areas and transfer knowledge between the two countries, all to create improved innovation systems. Additionally, an Executive Committee (EC) was created to support the decisions of the HLG and act as an advisory group to the HLG, analyzing suggested activities and, when needed, appoint and direct Working Groups. This initiative has a Working plan valid for two years with one HLG meeting annually and at least three annual meetings of the Executive Committee.

There is also the binational Steering Group of Innovation (SGI), high level group, established in 2016. Three areas were chosen to initiate the cooperation: Bioeconomy (focusing on Chemistry of Renewables; Biofuels; Earth observation); Smart Cities, mobility and mining; and innovation in Human Health. An Executive Committee on Innovation (ECI) was formed to prepare the guidelines and support the decision of the High-Level group of Innovation. This initiative has an annual workplan, approved by SGI and supervised by ECI. The first steps established was to sign a MoU between funding agencies (signed in 2018), define contact points in each country and start bilateral communication (seminars, projects cooperation)

2. **Main Initiatives and Programmes**
   - Specific Joint or Coordinated calls: Sweden’s Innovation Agency (Vinnova) together with the Brazilian Agency of Innovation (Finep) signed an Agreement of Cooperation in 2013. Three years after, in 2016, was launched a Coordinated Call between the two agencies in the field of Aeronautics. Three projects were funded. Another Coordinated call was launched with Senai and Vinnova and three more projects were approved. The main objective is to maintain this cooperation and widen it to other fields.
Universities:

- **KTH**: Since 2011 focused on student recruitment, mobility and research collaboration. Also interested in integration and joint collaboration projects with industry, public and academic sector. Focus in aeronautics and Smart Cities (Curitiba).

- **Uppsala Universitet**: Joint master program with Universidade se Sao Paulo in the area of material science. An agreement has also been signed with the FAPESP in the area of Science and technic (including University of Uppsala and Lund in Sweden)

- **Lunds Universitet**: agreement on exchange students with Sao Paulo State university, Federal university of Rio Grande do sul, University of Sao Paulo, Federal University of Campinas and Federal University of Rio de Janeiro. Some network-partners are CISB, GCUB (Coimbra Group of Brazilian Universities), Magalhes Network and FAPESP.

- **Blekinge Tekniska Högskola**: Project in cooperation with CNPq and CISB. Also participating in the network “Educational Modules for Electric and Electronic Circuits Theory and Practice following an Enquiry-based Teaching and Learning Methodology (supported by VISIR)”


- **Karolinska Institutet (KI)** have Mou with USP in Sao Paulo and UERJ in Rio de Janeiro. KI also have an academic coordinator for cooperation with Brazil. Research in the areas Global Health, Cardiovascular diseases, Diabetes type 2 and Psychiatry.

- **Borås Högskola**: Cooperation with University of Blumenau in science and technic.

3. Mobility Schemes

- **Ciência sem Fronteira (CSF)**: Sweden was the 15th country that received more scholarships. Capes funded the participation of 444 students between 2011 and 2014.

- **CNPq**: From 2006 until 2018 359 scholarships were given to students and researchers on different modalities: Doctoral, postdoctoral, senior internship, sandwiches graduation.

- **Calls CNPq-CISB-Saab**: grant of up to 7 postdoctoral fellowships abroad and up to 3 overseas sandwich doctoral fellowships in Swedish partner institutions of Saab AB. The areas are: Communication networks; Autonomous systems; Aeronautic engineering; Propulsion; Materials; Human Performance.

- **Capes/STINT**: Cooperation between Capes and the Swedish Foundation for International Cooperation in Research and Higher Education; Project selection in research area between Brazil and Sweden. Resource for project maintenance, scholarship and mobility. Until 5 calls were opened (2011, 2012, 2013, 2014, 2017 and 2018) with 35 approved projects (not counting 2018). The projects approved until 2014 had the duration of 4 years, after that the duration was for three years. [http://www.capes.gov.br/cooperacao-internacional/suecia/capes-stint](http://www.capes.gov.br/cooperacao-internacional/suecia/capes-stint)

- **Capes**: Capes also had other scholarships and between 1991 and 2018, 595 students and researchers have visited Sweden.

4. Financial Support

To support the cooperation in Science, Technology and Innovation funding agencies have signed a Memorandum of Understanding in the field of Research and Innovation between Brazilian National Council for Scientific and Technological Development (CNPq), Brazilian Funding Agency for Studies and Projects (Finep), Brazilian National Council of State Funding Agencies (Confap), Swedish Agency for Innovation Systems (Vinnova), Agricultural Science and Spatial Planning (Forms), The Swedish Research Council and The Swedish Research Council for Environment. This will enhance the collaboration in the areas of bilateral programs with financing on both sites, mobility and exchange of researchers, scientists and graduate students and also the cooperation in technological seminar, workshops and symposia.
5. Financial Support

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6. Further information

Innovation Weeks: Since 2011, Innovation Weeks Sweden-Brazil provide a platform for the strategic partnership between the two countries in the areas of science, technology and innovation (STI). The aim is to promote Sweden as a long-term innovation partner for Brazil by promoting Swedish innovation environments, establishing a collaboration with Brazilian partners and creating a meeting point for Swedish and Brazilian actors in the STI areas. The events are hosted by Team Sweden Brazil: Swedish Embassy, Swedish Business and Investment Council (Swedish Business Council), Swedish-Brazilian Chamber of Commerce (Swedcham) and Swedish Honorary Consulates. CISB (Centro de Pesquisa e Inovação Sueco Brasileiro) is also responsible for some events.

For more information: https://inovacaosueciabrasil.com.br

CISB: CISB (Swedish-Brazilian Research and Innovation Centre) is a private non-profit association that acts as an international hub to promote dialogue and offer a prosperous collaboration environment between Sweden and Brazil. The Centre’s main objective is to identify and support project development initiatives that involve advanced technology that can deliver solution to different industry sectors, causing positive impact in society. CISB promotes intense collaboration, leveraging and integrating what is best from all parts involved, which represent international companies, small and medium businesses, government, research institutes, and universities mainly in Sweden and Brazil.

- **CNPq-CISB-Saab:** CISB has partnership agreement with CNPq since 2012, through this agreement, Saab AB, one of CISB’s members, offered post-graduate scholarships focused on the aeronautical sector. Four joint calls between CISB, CNPq and Saab AB were published, having received more than 350 projects applications. 34 scholarships in Sweden have been awarded to Brazilian researchers from 17 universities and covering 5 regions of Brazil. 21 of these scholarships were for postdoctoral and 12 for doctoral sandwich. In Sweden, there are 8 universities and research institutes which have received the visiting researchers.

- **Executive Innovation Management Course (EIMC):** The course is organized by Linköping University and the Swedish-Brazilian Research and Innovation Center (CISB) in cooperation with Swedish Armed Forces and Swedish Defence Industry. The course has already had three editions, counting on the presence of 33 participants, with great emphasis on the Brazilian Army.

- **Program Swedish Endowed Professor Chair:** The program was launched in March 2015 and made possible the arrival of four academics from the Swedish universities Linköping University, Chalmers University of Technology and Royal Institute of Technology at ITA (Aeronautics Institute of Technology). The program includes joint education, bilateral research, support to the research agenda in aeronautics sector and expansion of cooperation. Due the success of the program, research activities have already expanded to other educational institutions such as Federal University of Santa Catarina, University of São Paulo, USP São Carlos, UNICAMP and Federal University of ABC.

For more information: [http://www.cisb.org.br/](http://www.cisb.org.br/)
1. Cooperation frameworks

There is general bilateral agreement on scientific cooperation between Brazil and Switzerland signed in 2009. Every third year, a new action plan is developed to implement this agreement. The Joint Committee Meeting (JCM) accompanying this agreement took place for the first time in 2014 in Brazil and will be held this year on 27 November in Berne. In principle, the JCM should take place every second year, but because of the political uncertainties in Brazil in recent years, this has not been possible.

The implementing partners of the agreement were initially the CNPq on the Brazilian side and the Ecole Polytechnique Fédérale de Lausanne (EPFL) on the Swiss side. Two bilateral calls with matching funds were realized between 2009 and 2014 and 22 research projects funded.

In 2013, Switzerland had as well signed an agreement with Brazil regarding cooperation within the framework of the Science without Borders Programme.

In 2014, the cooperation was interrupted because of a lack of funding on the Brazilian side. To bridge this gap, an agreement was signed with the FAPERJ and 12 projects were funded. In 2017, the “official” bilateral cooperation between Brazil and Switzerland was resumed; this time to be implemented by the CNPq and the Swiss Science Foundation (SNF).

In 2016, the SNF signed a letter of intent with the CONFAP to start a bilateral cooperation. So far, this letter of intent has not been implemented yet.

2. Priorities

Brazil is part of a selected number of focus countries which the Swiss Ministry for Education, Research and Innovation defines in its international strategy. Brazil is again part of the new strategy, which covers 2017-2020.

The thematic priorities of the bilateral cooperation are set out in the action plans which are defined by Switzerland and Brazil together to implement the bilateral agreement. In the past, the following areas were selected: health, energy, IT and communications, nanotechnology and biotechnology, chemistry, human and social sciences and urban development. The new action plan to be signed at the JCM on 27 November 2017 in Berne will define the new areas of cooperation.

Regarding staff: There is a diplomat at the Swiss Embassy in Brasilia acting partly as a scientific counsellor. Furthermore, there are two Swissnex offices in Rio de Janeiro and São Paulo, focusing on linking up Swiss and Brazilian scientists and promoting common research projects.

3. Main initiatives and programmes

To implement the action plans of the bilateral cooperation, joint calls are organized between the CNPq and the responsible Swiss agency (in the past EPFL, now SNF). These calls imply matching funds and a common board for the evaluation of the project proposals.

Swissnex Brazil has its own programmes and projects, the most successful being the Academia Industry Training (AIT), which started in 2014 and completed its first cycle in 2016. The programme gives young researchers the possibility to test whether their innovations can be converted into a business in the Brazilian and Swiss market. The programme is trilateral, with participation of Brazilian, Indian and Swiss scientists, and consists of three camps in the respective countries. The best projects are awarded a seed money grant for the development of a start-up.
The MCTI had participated in the funding of this programme since 2015 and accepted to fund half of the costs of the next three year-cycle of the programme, ending in 2019.

The Swiss Ministry for Education, Research and Innovation appointed a Swiss university as a focal point for its cooperation with Latin America, a so-called “Leading House”. In the past, the EPFL acted in this role; from this year on, it’s the University of St.Gallen. The Leading House has two programmes to foster new research cooperation between Switzerland and Latin American countries: A Seed Money Grant programme which funds projects up to CHF 25'000 and the so-called Research 2 Merger Programme, funding up to CHF 50’000 per project. The latter is directed towards cooperations that already exist and aim to reach a new level of scope and intensity.

4. Mobility schemes

The only bilateral agreement at government level regarding mobility was the Science without Borders Programme. Since its ended, mobility is only taking place on the basis of bilateral agreements between Swiss and Brazilian universities.

5. Financial support

So far, the bilateral cooperation between Brazil and Switzerland (based on the agreement from 2009) has always been functioning on a matching funds basis. In addition to the bilateral agreement, the Swiss Ministry for Education, Research and Innovation runs a grants programme for researchers from selected countries. Brazil is part of these. Every year, up to 15 grants are provided for Brazilian students at doctoral and post-doc level who wish to continue their research at a Swiss university.

Seed Money Grant/Research Merger, administered by the Leading House: see chapter 3.

6. Further information

Switzerland is as well active in the field of vocational training. We have an informal dialogue with the MEC and Swiss experts are regularly invited to speak about our vocational training system. However, no formal cooperation has been established so far.

At the occasion of the JCM on 27 November in Berne, it will be evaluated whether new actors, such as CAPES, EMBRAPII, FINEP or CONFAP could be integrated in the implementation of the agreement between Switzerland and Brazil. It would be interesting to know whether other countries have already best practices in this regard.
1. Cooperation frameworks
Agreement between the Cabinet of Ministers of Ukraine and the Government of Federal Republic of Brazil on science and technology cooperation (signed on November 11, 1999, in force since May 27, 2009)
Memorandum of understanding in the area of education between the Government of Ukraine and the Government of Brazil (signed on December 2, 2009, in force since December 2, 2009)
Meetings of the working groups on cooperation in the area of education and specific areas of cooperation, such as space, agriculture, health in the framework of the Intergovernmental Ukraine-Brazil Commission on Trade and Economic Cooperation. (last meetings was held on November 8, 2013)
Memorandum of understanding between the National Council for Scientific and Technological Development (CNPq) of the Federative Republic of Brazil and Ukrainian State Center of International Education (USCIE) on cooperation in the area of education, science, technology and innovations (signed on November 8, 2013, in force since November 8, 2013)

2. Priorities
- academic exchange between Ukrainian and Brazilian universities
- cooperation in aerospace
- agriculture
- pharmaceutical industry
- energy sphere

3. Main initiatives and programmes
The programs are realized in the framework of cooperation between particular universities:
- National Academy of Science of Ukraine and Academy of Science of Brazil based on the Memorandum of Understanding singed on October 12, 2003. Cooperation in the area of mathematics, chemistry and physics
- Kharkiv National University named after V.N.Karazin and The National Scientific Center Kharkiv Institute of Physics and Technology and UTFPR based on the Trilateral Agreement on Academic, Science and Cultural Cooperation signed on March 8, 2017
- Kharkiv National University named after V.N.Karazin and FURGS based on Agreement on Cooperation singed on September 2012
- National Pedagogic University named after M.P.Dragomanov e Unicentro Parana based on the Agreement on Cooperation singed on November 29, 2012
- National Medical University named after O.O.Bogomolets and Federal University of Minas Gerais based on the Agreement on Cooperation in the area of dentistry singed on October 26, 2016
- Dnipro National University named after O.Gonchar and UnB based on Agreement on cultural, science and academic cooperation, singed in December 2009. In 2011-2012 10 UnB students of aerospace specialization studied in the Ukrainian University having internship at Ukrainian specialized plants.

Since 2013 two Ukrainian professors from Dnipro National University are working at the Faculty of Aerospace Science at UnB

4. Mobility schemes
None

5. Financial support
Ukrainian government offers full tuition waiver for the foreign students of Ukrainian origin (foreign Ukrainians) to study in a Ukrainian university.
1. Cooperation frameworks

Are there bilateral agreements, MoU, arrangements, etc. at national level in force?

- Agreement on Science and Technology Co-operation between the Federal Republic of Brazil and the Government of the United Kingdom of Great Britain and Northern Ireland, signed 03/12/1997, and in force from 14/07/2000;
- Memorandum of Understanding between the Ministry of Science, Technology and Innovation of and the Department for Business Innovation and Skills (BIS) of the Government of the United Kingdom of Great Britain and Northern Ireland, signed 27/08/2015;
- Letter of Intent between the Ministry of Science, Technology and Innovation of the Federal Republic of Brazil (MCTI) and the Metrological Office of the United Kingdom, on behalf of the Department for Business Innovation and Skills (BIS) of the Government of the United Kingdom of Great Britain and Northern Ireland, for co-operation in climate modelling, natural disaster risk management and climate services, signed 12/2016.
- MOU with the National Council for State Funding Agencies – signed in 2014
- MOU with Senai to collaborate on tech transfer – signed 2014
- Mou with CNPq for cooperation on Science and Innovation within Newton Fund – signed 2014.

Which are the respective counterparts and the frequency of committee meetings? Respective counterparts are set out as above. Meetings take place as required by the partners.

2. Priorities


Is Brazil encompassed into a regional STI strategy with this country? No. The UK has a strategy for STI engagement with Brazil on a bilateral basis. Brazil is also included as one of four countries in its Science and Innovation Network LatAm Hub (with Chile, Argentina and Colombia).

Which are the STI priority fields of the bilateral cooperation? Life Sciences, Biodiversity and Climate, Agri tech, Energy.

Are there national scientific counsellors in Brazil? Yes, one Regional Science Counsellor.

3. Main initiatives and programmes

Are there joint calls or coordinated actions? Yes.

Are there any specific bilateral initiatives or programmes? Yes, the Newton Fund was launched in 2014 and will invest GBP 75 million by 2021. The Fund aims to promote social and economic development through Science and Innovation.

Are there specific agencies involved? The main research and innovation funding agencies from the UK and their counterparts in Brazil, including FAPs, CNPq and a number of Brazilian Ministries.
Are there joint institutes or labs?
- Center of Excellence in New Target Discovery (CENTD) – GSK/Butantan/FAPESP
- Research Centre for Gas Innovation (RCGI) – Shell/USP/FAPESP
- Sustainable Gas Institute – Shell/Imperial College/ANP/RCGI
- Structural Genomics Consortium – UNICAMP/SGC Oxford
- Embrapa Labex Programme – Embrapa European Lab

4. Mobility schemes (in both directions)
The United Kingdom has currently a wide range of mobility schemes in place with Brazil, including:
- Newton Advanced Fellowships
- Newton International Fellowships
- Butantan-Oxford University Young Researchers Programme
- Chevening Master Scholarships

5. Financial support
Which are the specific funding schemes?
- FAPESP-RCUK Peer Review Agreement
- Newton Fund
- Great Challenge Research Fund

Are there agreed co-funding mechanisms and reciprocal access?
- FAPESP-RCUK Peer Review Agreement
- Newton Fund

6. Further information
The UK-Brazil Year of Science and Innovation (YoSI) 2018-2019 is a joint initiative led by the UK and Brazilian governments. The UK-Brazil Year of Science and Innovation is an opportunity for scientists, entrepreneurs and British and Brazilian companies to celebrate existing and new joint research in light of the key global challenges we face. The Year’s programme offers a variety of events in both countries, including British Nobel prize-winner lectures, scientific workshops and seminars on innovation.

The four key themes of the UK-BR YoSI are:

i) Health and Life Sciences,
ii) Climate and Biodiversity,
iii) Sustainable Agriculture,
iv) Energy.

The UK government also provides separate funding initiatives for climate, research, innovation and enhancing economic welfare through the International Climate Fund and the Prosperity Fund.