REPORT ON BI-REGIONAL MOBILITY

MAPPING AND ANALYSING ACADEMIC NETWORKS AND MOBILITY SCHEMES BETWEEN LAC AND THE EU

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SUMMARY

This report presents the results of the EULAC Focus activities undertaken in the course of task 4.1 of the work package on Scientific relations between EU and LAC. It is specifically targeted at identifying key actors, instruments and schemes of (bi-regional) academic cooperation as well as patterns of (bi-)regional mobility of researchers. Furthermore, the report explores opportunities for connectivity and up-scaling of bi-regional mobility between the EU and LAC. It does so by taking a mixed methods approach and by focusing on three different perspectives of academic cooperation and mobility:

FOCUS AREA I – MAPPING THE FRAMEWORK

The stock-tacking exercise conducted in the course of this report came up with 1880 mapped academic networks, academic institutions, mobility schemes and cooperation projects[1] actively working in the framework of EU-LAC relations. The mapping was conducted in a thematically and organisationally open way, going beyond the higher education realm, but still allowing to easily discern between academic and non-academic institutions. Generally, the following five organisational types of higher education institutions and/or networks were identified and mapped[2]:

- **Research Centres:** This category includes private institutions at least partly dedicated to study topics related to EU-LAC relations and/or specific issues in the other region.
- **Academic Institution:** Under this label, higher education institutions realising research activities in the EU or Latin America and the Caribbean in the framework of EULAC relations are subsumed.
- **Academic Network:** This category refers to an entity that is created to enforce synergies between its member organisations, as well as to gather efforts for a common reason. These networks and alliances can take place at a sub-regional, regional, bi-regional or international scale.
- **Cooperative Project:** This organisational types captures ongoing cooperation projects in the framework of EU funded research and higher education cooperation programmes (H2020, Erasmus+).
- **National programmes (only LAC):** In the category national programmes the mapping captures organisations and/or networks of researchers not associated with a HEI.

Notably, other types of organisations like chambers of commerce, public institutions and civil society organisations are also included in the mapping, however for the purpose of this report the focus is placed on HEI. Besides these 5 organisational academic types, there was also a classification in terms of geographical level undertaken. For this purpose, 5 levels of interaction were defined, to determine which level the organisational types are located and operate:

- **International:** Operating on a global scale.
- **Bi-regional:** Operating on a bi-regional (EU-LAC) level.

[1] Of these 1516 were gathered by the MAPEO project initiated by the EULAC foundation, 364 were added by the EULAC Focus project through desk research.
[2] For a more detailed description see: https://eulacfoundation.org/sites/eulacfoundation.org/files/files/Guide%20MAPEO%20EN(2).pdf.

- **Regional:** Operating either in the EU or LAC.
- **Sub-regional:** Operating only in selected countries in the EU or LAC.
- **National:** Operating on a national level.

Of the 1880 total cases, the vast majority are national organisations (1283), whereas 308 organisations operate on a strict bi-regional basis. The third biggest share of organisations focuses their operations on an international level (162), while 101 of the organisations are active on a regional level. Sub-regional institutions are represented with 25 cases in the database.

All in all, the mapping process allowed to gain some first insights into the structure, orientation and landscape of EU-LAC cooperation in the bi-regional framework. Nonetheless, the data captured in the mapping cannot be considered as a complete overview on EU-LAC cooperation. In order to make profound recommendations on how to strengthen EU-LAC relations in the scientific dimension, this mapping exercise needs to be accompanied by an in depth analysis of a certain realm of cooperation where the data base is solidified and the thematic and geographic patterns can be deducted accordingly. Therefore, the next part of the report concentrates on the analysis EU funded research cooperation projects with LAC participation as well as on the research cooperation funded by national funding agencies, trying to come up with geographic and thematic clustering proposals for strengthening and enhancing the impact and sustainability of EU-LAC cooperation in the scientific dimension.

FOCUS AREA II – CLUSTERING HE COOPERATION

The core of the second focus area is to observe, analyse and understand existing cooperation and mobility patterns. An extensive and in depth analysis of available data on mobility of researchers who participate in different academic cooperation programmes, mobility programs and schemes (e.g. Horizon2020 and Erasmus+) was conducted. The aim of this exercise was not only to evaluate trends and patterns of mobility and academic cooperation in the existing HE policy framework, but also to process empirical data in a way that allows identifying synergies and opportunities for up-scaling by clustering existing research cooperation both geographically and thematically. On the basis of this cluster analysis, needs and potentials for the up-scaling of bi-regional cooperation and mobility are explored in order to develop policy recommendations in support of the Joint Initiative on Research and Innovation and the establishment of a Common Research Area.

Additionally, an analytical assessment of the most active funding agencies enabling bi-regional scientific cooperation was conducted. Using this method seemed especially relevant as tracing the funding roots of scientific co-publications allows to add another piece to the puzzle EU-LAC cooperation, investigating national research funding agencies, their priorities and their cooperation patterns in the bi-regional framework. To do so, an analysis of scientific co-publications was chosen in order to identify the most active funding agencies enabling bi-regional scientific collaboration. A (co-)publication analysis usually aims at visualising collaboration patterns between defined regions or countries in terms of affiliated institutions, authors or topics, whereas co-publications are hereby defined as publications with contributions from researchers affiliated to at least one EU and one LAC country or institution.

Summing up the results of the **funding agency** analysis, it can be concluded that there are already very strong collaboration ties between certain well-established funding agencies, contributing to

comparatively high numbers of co-publications between certain LAC and EU countries. Especially the connections between Germany-Brazil, Portugal-Brazil, Spain-Argentina, Spain-Chile and Spain-Mexico are strong and recognised. In case of the Caribbean, the dominant cooperation partner is the UK. The role of the European Union as a funding agency must be highlighted, in particular in the case of smaller LAC countries. While the MS mostly have a stronger focus on one or two countries in Latin America, most of the time involving either Brazil or Argentina, the EU cooperates in a more diversified way, and has established strong ties with Chile, Colombia, Mexico, Bolivia and Costa Rica. Including and collaborating with all the LAC countries is a clear priority of the Common Research Area and the data point to the fact that this is working. However, there is still room for improvement, as many LAC countries are still underrepresented in these collaboration patterns. Although in some cases this is a natural trend resulting from the size of the researcher communities in smaller countries, the added-value in including these countries might come from their contribution to very specific knowledge systems and not necessarily from their contribution in terms of funding value.

Detected patterns between the EU and LAC countries as regards **geographic cooperation** draw a clear picture. The EU has well-established ties with some LAC countries especially the ones that have been active in cooperation for a longer time and have access to domestic resources and research and innovation systems in place (Argentina, Brazil, Mexico, Chile, Colombia). While these countries generally belong to the bigger LAC nations with more resources available, there are also other examples that show that targeted efforts towards increasing cooperation can be of significant impact in terms of bi-regional cooperation. For example, Uruguay and Ecuador can be counted as two of the most active countries in the framework of H2020 as well as in Erasmus+.

These examples – which could also include other countries such as Costa Rica – show that participation of LAC countries in EU research and higher education programmes is not only a matter of traditional cooperation channels and path-dependency, but that targeted efforts and dedication of resources (e.g. through well informed NCP networks) is a factor in determining the success of cooperation efforts. Additionally, an important factor in creating new geographic links is to have a clear understanding of regional, respectively national or local strengths and weaknesses in terms of thematic orientation as well as research and innovation needs and drivers. Building up cooperation priorities with EU countries from a LAC perspective requires a contextualisation of the bi-regionally set priority areas (bioeconomy, biodiversity, climate change, ICT, energy and health) as regards the specific situation and needs of national research and innovation systems. Only by doing so, the geographic ties can be built up according to the thematic landscape present in the region.

As regards this **thematic landscape**, the empirical analysis of cooperation between the EU and CELAC has delivered evidence that the relations are characterised by a diversity that illustrated through the presence of LAC partner institutions across (almost) all pillars of H2020 as well as Erasmus+ under the precondition that these are open for their participation. Participation regarding thematic focus areas follow a more or less balanced pattern, without significant outliers visible. The only visible deviation is the concentration in MSC-Actions, which is partly explainable through the different level of grant takers (individuals vs. organisations), but also shows that the researcher mobility priority established as one of the pillars of the CRA is already operating on a comparatively well-developed foundation. However, even though this pillar is already in practice, a more targeted approach, e.g. through strengthening the participation of female researchers or the appeal of CELAC for PhD students would enhance the mutual benefit for both regions.

Furthermore, cross-referencing the empirical data with the bi-regional framework which is set out by the CRA; the JIRI and the SOM meeting, facilitates the generation of a new empirical knowledge base for the enhancement of impact and sustainability of EU-LAC cooperation. As introduced above, the bi-regional working groups on thematic priorities implemented as support for the SOM meetings defined a set of key researcher areas for intensified EU-CELAC cooperation: Bio economy, Biodiversity, Climate Change, ICT, Energy and Health. These topics were chosen to be areas where both regions identified the most potentials for cooperation and where LAC participation would be especially beneficial. Looking at the empirical data leads to a patchy assessment.

On the one hand, there are some cooperation areas where LAC participation clearly lives up to the jointly developed priority areas. For example, looking at the H2020 pillar "Societal Challenges" the topic of "food" (n=22), (which includes the priority area bioeconomy) had the highest number of LAC participation with only the fourth highest budget compared to the other societal challenge focus areas. This indicates that LAC participation in this field brings significant added value to the EU research area and that the bi-regional priority areas were targeted towards a direction were mutually beneficial knowledge transfer is possible. Additionally, the topic of "environment" shows a similar cooperation pattern like "food", gathering 22 projects under this priority area. On the other hand, there is also a notable lack in certain areas of cooperation, where, according to the bi-regional joint agenda setting, the participation should be precedence. For instance, the topic of "transport", an issue extremely relevant to multiple dimensions such as climate change, energy and ICT, and more specifically to the issue of sustainable urbanisation, so far has not attracted relevant participation by LAC organisations, with only one project funded that include partners from LAC. Likewise, in the topic of "energy", explicitly identified as a bi-regional priority area, so far only very little involvement of LAC institutions has been funded and implemented.

Obviously, the process of identifying these priority areas was done in parallel with the publication of different calls for the research framework programmes and therefore a stronger effect might show in the last rounds of H2020 implementation. Nonetheless, the analysis conducted already allows a first résumé of the cooperation efforts. The data to do this is readily available and has been presented and summarized above. In addition to the already described topic variations, the data also shows a lack of LAC participation in different research fields such as the pillar of "leadership in enabling & industrial technologies", that also includes bi-regionally defined priority areas such as ICT, where only marginal LAC participation was determined.

Another issue to take into account is the participation of LAC countries in Erasmus+ projects. In this funding scheme, the thematic priorities are even less visible, which is partly due to structural differences in the programme design, but partly also due to lack of alignment of policy areas between the programming institutions, in particular the responsible DGs Research and Education and Culture. In Erasmus+, LAC countries are especially prominently represented in actions dealing with building up competences regarding internationalisation and capacity building for higher education. There is still a lot of untapped potential in EU-LAC relation in fields such as curriculum development, knowledge alliances and sectorial skill alliances. So far, it seems that these instances of cooperation in Erasmus+ have not strategically been connected to the priority areas identified in the bi-regional policy dialogue. Doing so would considerably strengthen the relations between the two regions and open up new spaces of cooperation connecting actors from both regions in a sustainable and long-lasting manner.

Interconnecting the different existing programmes creates synergies that are necessary to increase the impact of scientific cooperation in both regions. While the two programmes certainly have different angles and cover different aspects of scientific cooperation, the alignment of their strategic priorities, at least in part, makes it possible to avoid duplications and to design the relations according to the principles of highest possible added value for both regions.

Creating and using synergies hereby goes beyond the programme level and is also a conclusion when looking at the project level. Taking the empirical data into account that show that there is a lot of cooperation going on, the necessity for connecting the projects which work in similar fields becomes evident. The empirical approach of clustering, deployed in this report, can serve as a suitable approach to identify the different geographic and thematic patterns that are visible in bi-regional cooperation. However, in order to enhance the impact of the bi-regional cooperation projects it is also necessary to follow up on this activity with a strategic clustering approach as well as a practical instrument that allows the active actors in this field to get engaged and actually create the added value derived from creating synergies. The strategic angle secures sustainability for the different projects as it enables that the outputs and outcomes of each project are shared, disseminated and exploited on a broader basis both in terms of target groups and beneficiaries as well as policy implications and research and innovation system implications. The empirical data provided through the EU-LAC focus project can hereby serve as a tool for the EU, national governments in LAC (and the EU) and other actors to articulate projects and initiatives to leverage their structural, institutional and societal impact on research and innovation and higher education systems.

Although this analysis gives a good insight into the actual state of the art of cooperation and the alignment of cooperation patterns with bi-regionally set priority areas, to identify possible pathways on the way to an even more efficient and impactful relation it is necessary to look at the specific experiences of actors involved in these projects.

FOCUS AREA III – BEST PRACTICES AND UPSCALING POTENTIALS

After getting an overview of the EU-LAC cooperation patterns on multiple levels, the next step was to select interesting cases for further examination in order to identify main challenges, support needs and best practices of cooperation. These cases were selected following three criteria: 1) representativeness, 2) indication of good practice and 3) potential for further cooperation. While the first criterion was assessed by the general classification in the mapping and included geographic diversity, criteria 2) and 3) were assessed by the researcher team through the responses received in an exploratory survey.

The analysis of the interviews shows a diverse picture of cooperation systems that are in place but also elaborated some common barriers and challenges as well as opportunities for upscaling. Naturally, due to the different kinds of networks that were interviewed, the approaches to cooperation were highly diverse. Academic networks seem to be organized very heterogeneously, connecting a vast number of higher academic institutions. In the case of academic networks, the structure can be one of a national NGO, an international organisation or even a foundation. The organizational structure has implications

for the concrete operational work of the networks, as it determines decision-making processes and can contribute to reducing asymmetries in terms of power relations.

A lack of financial resources is identified as a main problem regarding mobility, as for example daily rates for students or researchers on trips abroad are sometimes regarded as too low in case of EU funded projects; or universities themselves are not dedicating enough money in case of academic networks. On a more basic notion, the interviews showed that often, especially when working with smaller LAC countries, the knowledge needed to jointly work in international projects is very limited. This highlights that administrative capacities are not well developed, meaning, for example that researcher groups don´t know how to organise research in an international context.

An observed issue is the inclusion of Caribbean partners. Inside LAC networks this might be related to language issues, but often it is also a problem of lack of administrative capacities available in smaller Caribbean universities. Therefore, the case of the University of West Indies seems to be a good practice example as this university consortium manages to support its different branches all over the Caribbean with support measures regarding internationalisation and administration of bi-regional cooperation and mobility. Another, very practical issue, is the one of different time zones. Operating in different time zones often makes meeting more difficult, as working hours are limited each day and in case of universities other obligations like giving classes often have priority compared to online meetings with partners from the EU or LAC. In this specific regard, university administrations are called upon to provide the necessary support measures to researcher to be able to comply with their duties deriving from international cooperation projects.

Another main challenge which becomes manifest especially in EU funded projects, but also in academic networks, is the bureaucratic work load that comes along with getting involved in international cooperation and mobility. This issue stretches from the level of individual researchers being overwhelmed with bureaucratic demands e.g. in their host institution of an abroad stay to the requirements set out for participating in e.g. EU funded projects. While a certain amount of bureaucracy is certainly necessary, more easily accessible assistance measures could help mitigating this problem. For example, on an institutional level a network solved this problem by pairing more experienced “mentoring institutions” with newcomer institutions. This pairing ensured direct support channels between the partners and making cooperation more efficient by establishing a personal link. Another facet of this is complying with eligibility criteria for funding, which is not always easy, especially in case of international organisations like e.g. CLACSO. On an individual level this translates to better on-site support measures for researchers working in a foreign environment.

A general issue that arose particularly with the EU funded projects is the one of information on funding possibilities. Apparently, these are often still not well known by LAC researchers or institutions and therefore the participation is still not where it could be. In the last decade, the EU has been dedicating significant resources towards communication and dissemination efforts in LAC and other world regions, for example through the Euraxcess network, but there is still untapped potential in this area. With the implementation of the Service Facility[3] in support of the strategic development of international

[3] The Service Facility in Support of the Strategic Development of International Cooperation in Research and Innovation set up under the provisions of the Horizon 2020 Work Programme 2016-2017. The service facility in support of research and innovation cooperation aims to support the European Commission in reinforcing

cooperation in Research and Innovation, the European Commission has taken another step to push communication efforts in different world regions forward. Making use of the ties already established in previous Framework Programmes will be crucial to ensure the success of this institution. The cooperation with LAC universities needs to be very intense on this issue. Regional academic networks like UDUAL, CLACSO, or AUALCPI can be very valuable in this regard as they have stable connection to a high number of LAC universities. Working together more closely with LAC regional university associations, maybe also enabling their participation in funding programmes, could contribute to higher visibility on the continent as well as to be more involved in the bi-regional scientific discourse. This could also be achieved by establishing a bi-regional platform for University Associations from both regions to discuss common approaches to cooperation. While the EU-CELAC Academic Summit already serves as a framework for bringing multiple actors together, a more stable and continuous platform or network would facilitate interexchange.

Furthermore, the issue of funding sources remains relevant. Notwithstanding the traditional demands for more funding sources raised in both regions there are other matters connected to this topic. For one, mobility funding should be linked to a better access to research infrastructures and knowledge systems. In case of peripheral universities from both regions, the access to basic resources that are necessary for conducting high quality research is not easy. The experience of sharing scientific results on an international level can be as rewarding as the access to research equipment not accessible in the home country of a researcher.

Moreover, funding can become a measure of supporting cooperation on an equal-footing and with lesser asymmetries in terms of decision making power and agenda setting. If bi—regional cooperation takes the proclamations of the Common Research Area seriously and strives for mutually beneficial scientific exchange, a way to do so would be to work more towards co-funded or (CE)LAC funded networks and projects. This would strengthen the cooperation on multiple levels: First, it would reverse traditional cooperation patterns and their sometimes path-dependent routines and hereby facilitate innovativeness in and through cooperation. Second, it would shift the perspective of EU institutions and force them to adapt a bit more to the reality of LAC universities. By doing so, mutual understanding would be fostered, and up-scaling of cooperation and mobility would show more efficiency. Third, LAC countries could push their own research agendas and, at the same time, share more confident scientific knowledge on issues where LAC researchers are more proficient than their European counterparts. Obviously, the precondition for this is that regional organisations like CELAC or other regional bodies commit funds to bi-regional cooperation and get active in the field not only in the framework of political dialogue, but also in terms of bundling resources from its member countries.

Mutual understanding of structures, systems and procedures in the higher education sector in both regions is crucial for strengthening cooperation and mobility. It is a precondition to work towards an environment more fit for international cooperation, especially on the LAC side. The EU has been serving as a role model in terms of regional integration of university systems, including diploma recognition and credit transfer, in the last decades. However, the interview partners from LAC highlighted the fact, that EU experiences are not easily transferable to LAC due to national and regional peculiarities. If the EU wants to contribute to the development of an integrated university system it needs to "*share its experiences with all its flaws (…) without imposing anything*", according to an

bilateral, multilateral and bi-regional policy dialogues with Third Countries and regions as well as identifying and addressing barriers to and opportunities for increased cooperation.

interviewee. The cooperation of regional LAC networks has shown, that there are a diverse set of actors that needs to be taken on board when talking about internationalisation and integration in LAC. For example, it was mentioned multiple times in the interviews that students or teacher unions have a bigger role in a lot of LAC universities, which generally have a high degree of autonomy. A better understanding of this circumstance and offering assistance in an appropriate way can, in the long-term, contribute significantly to strengthening bi-regional cooperation. A key role in this matter could be a stronger focus on administrative interchange between the regions fostering the foundation for EU-LAC cooperation.

Diversity of involved institutions is another way how cooperation could be strengthened. This means on the one hand, better inclusion of the private sector in bi-regional cooperation. An example for this is the Spanish Fundación Carolina, where private companies are contributing to scholarships available for LAC researchers and therefore have better access to research results. Although agenda setting should clearly remain with public institutions, match-making with the interests of private companies could be a very efficacious way to up-scale bi-regional mobility efforts and make more funding available. Thinking of the example just mentioned, a similar foundation on bi-regional level could include companies, universities and public institutions from both regions, extending the possibilities for cooperation and mobility significantly. On the other hand, such a bi-regional platform should also be integrative towards other organisations from Civil Society, as stressed by some interview partners, promoting the connection of science and research to society. Hereby, on interview partner from the EU pointed out that Latin American and Caribbean experiences could be more than valuable, as the connection to the Civil Society traditionally is higher in the case of LAC universities than in the EU. For example, under the label of “Extensão” Brazilian universities promote a strong connection with their communities. The outreach to these communities highlights the embeddedness of LAC universities in socio-economic environments. From a European perspective this could be an interesting docking point, considering the strong focus on Responsible Research and Innovation that was set by the latest EU funding programmes.

CONCLUSIONS AND RECOMMENDATIONS

The conducted analysis gives an insight into the key institutions and patterns of bi-regional scientific cooperation, in general as well as more specifically regarding academic mobility. Furthermore, it served to point out areas for strengthened cooperation, based on the analysis of prevalent cooperation patterns, experiences of networks, schemes and projects active in this field. A basic approach that this report took was clustering cooperation and mobility patterns between the EU and LAC in order to create an empirical basis for increasing the impact and sustainability of academic cooperation between the two regions. The analysis undertaken in Focus Area II – Clustering Higher Education Cooperation shows that there is relevant untapped potential in the bi-regional cooperation framework. This concerns not only EU funded cooperation projects but also the many institutional actors organising cooperation on a horizontal level e.g. between academic institutions, public institutions or private organisations from both regions. In general, the recommendations can be made thinking the three different focus areas of the report together:

Recommendation I - Building research clusters by exploiting synergies: Strengthening the scientific relation between EU and LAC by enhancing the impact of bi-regional academic cooperation on R&I systems and in continuation on society itself is not a simply issue of increasing budgets. Analysis has shown that the cooperation landscape is diverse and broad, but also with considerable overlaps and potential synergies. As both regions are highly diverse in terms of political frameworks, R&I policy systems, geographical conditions, regional peculiarities no one size fits-it all agenda setting approach seems to fit.

Recommendation II - Alignment of the policy framework. The analysis highlights areas of strengths for LAC countries, as can be deducted from participation patterns in EU cooperation programmes as well as funded co-publications by national funding agencies. In the context of EULAC-relations in the higher education sector there is a distinguished policy framework for setting and determining common research priorities. The overall objective of establishing a Common Research Area is supported by the Joint Initiative on Research and innovation, setting priority areas that are selected for explicit EU-LAC cooperation in the EU framework programm (e.g. sustainable urbanisation and health). While the empirical analysis confirms that these bi-regionally identified priority areas are in fact having an impact on bi-regional cooperation patterns, the framework beyond EU funded programmes seems to be quite scattered and spread out.

Recommendation III – Fostering targeted researcher mobility. Looking at mobility schemes in place, it became clear that there is already quite a wide range of possibilities for researchers and students to study or work abroad in the other region for a certain period of time. Especially in the framework of the Erasmus+ programme and the MSCA actions which are part of the EU Framework Programme. These programmes are complimented by various national initiatives like the “Fundación Carolina” (Spain). However, the possibilities and requirements for participation in these programmes are still not well known in some parts of the LAC scientific community. Further support measures are needed not only in terms of promoting exchange possibilities but also in terms of creating easier access and continued support.

Recommendation IV – Explore alternative financing options. The question of financial resources available for bi-regional mobility programmes and cooperation was omnipresent. Dedicating more resources to this area would contribute to strengthening the ties between the regions and make the outcomes more fruitful. However, funding should increasingly be diversified. A key factor would be that LAC countries progressively take the role of funding entities for bi-regional cooperation projects, giving money both to LAC and EU entities. Through this, bi-regional cooperation could unfold under more equal premises and the mutual benefit would be increased. Doing so would be possible on national level, for example through the funding agencies identified in this report, or under a common regional framework like it is provided through CELAC.

Recommendation V – Foster industry and Civil Society participation. Cooperation networks between academic institutions in LAC and the EU are diverse and, at least for some areas/regions, well established. However, there is still a lot of potential regarding the connection of actors from industry and civil society with academic actors. The EU framework programmes for example highly encourage participation from non-academic institutions and especially SMEs and civil society organisations. Though this cooperation is encouraged, participation by non-academic actors from LAC is not on a level comparable to academic institutions.

Recommendation VI – Setting up monitoring mechanisms. Getting a comprehensive overview on ongoing cooperation initiaves is crucial to understand and exploit the potential of cooperation in the most efficient way. A good deal of bi-regional research efforts should be targeted to delivering tangible impacts for managing global challenges and directly benefit local communities through practical outcomes of research efforts. This means putting social impact of research cooperation projects at the core of academic cooperation and in continuation, be targeted in the specific research cooperation that are undertaken (e.g. by using “research clusters” as specialisation strategy).

FOREWORD

This report presents the results of the EULAC Focus activities undertaken in the course of task 4.1 of the work package on scientific relations between EU and LAC. Following the rejection by the reviewers at the end of the second reporting period, the report has been completely re-elaborated under two premises:

- First, plenty of background research outputs that were simply used as a basis for the first version of this report, but were not included and presented in it, have been explicitly introduced.

- Second, and more importantly, new very in depth research has been conducted on an area whose importance has been highlighted in the interviews with stakeholders of EU-LAC scientific relations conducted during the beginning of the third project period. This area has proven to be essential in the course of the EULAC Focus project and is crucial also in the development of EULAC Focus' Plan of Action (Deliverable 6.4): the study of ongoing EU-LAC collaboration (present and in the very recent past) in the framework of EU-funded programmes - basically Horizon 2020 and Erasmus - involving Universities, Public Institutions and Research Centres. This in depth research will form the empirical basis on which to ground a strategy of clustering EU-LAC cooperation projects in order to greatly enhance their impact and sustainability.

The usefulness of this approach, as well as its first results, have been validated in three events organized or co-organized by EULAC Focus:

- The International Seminar: “Políticas de Investigación, Innovación, Ciencia y Tecnología en América Latina y el Caribe. Incidencia sobre el Desarrollo Social e inserción en el marco de las relaciones América Latina y el Caribe y la Unión Europea” that took place in Quito, Ecuador, on the 25th and 26th of June 2019.
- The “International Workshop” held in Ljubljana, Slovenia, from the 20th to the 23rd of May on “Collaboration for the strengthening of capacities in institutions of Latin America, the Caribbean and the European Union for bi-regional research cooperation”.
- The International Conference organized by OBREAL/GLOBAL OBSERVATORY in Mar del Plata, Argentina, from the 9th to the 11th of September, “Camino a FIESA 2020. Construyendo juntos la Educación Superior en América Latina.”

Preliminary or final results of the study were presented at these events and were unanimously considered a decisive step forward in the understanding and strengthening of EU - LAC relations in the scientific and higher education areas. Therefore, the analysis conducted in this report and the results obtained through this analysis can be considered as a valuable basis for future policy-making and programme design in the realm of EU-LAC cooperation.

1 INTRODUCTION

In March 2016 the EU-CELAC Senior Officials Meeting committed to advance the Joint Initiative on Research and Innovation (JIRI) and its key role in the support of sustainable development and productivity. To foster the role of R&I in bi-regional relations, three pillars were established which shall be the foundation of a Common Research Area (CRA) between the EU and CELAC:

1. Mobility of Researchers;
2. Access to and outreach of Research Infrastructures (RIs);
3. Jointly tackling societal challenges such as health, sustainable urbanization and clean urban transport.

EULAC-Focus is dedicated to contributing to the advancement of the Common Research Area in all of these three areas. This report is specifically targeted at identifying key actors, instruments and schemes of (bi-regional) academic cooperation as well as patterns of (bi-)regional mobility of researchers. Furthermore, the report explores opportunities for connectivity and up-scaling of bi-regional mobility between the EU and LAC. It does so by taking a mixed methods approach and by focusing on three different perspectives on academic cooperation and mobility.

Focus Area I – Mapping the framework. First step in our methodological approach was a stocktaking of institutionalized bi-regional, regional and sub-regional academic networks and schemes in order to get a comprehensive overview of relevant actors and the existing practices that support knowledge transfer and researcher/post-graduate mobility between and inside the two regions. This stock-tacking action, resulting in a mapping of almost 2000 academic networks, schemes, projects as well as other institutions dealing with research, innovation, higher education, academic cooperation and mobility in the EU-LAC context provides the most comprehensive overview available on the framework of EU-LAC relations in the scientific realm. It covers actors, instruments and schemes of bi-regional, regional and sub-regional academic cooperation and mobility and was elaborated in close collaboration with the EULAC Foundation.[4] Some insights in this mapping process are presented in this report (chapter 4) the full results including the database will be made available online.[5]

Focus Area II – Clustering Higher Education cooperation. The core of the second focus area is to observe, analyse and understand existing cooperation and mobility patterns. Therefore, an extensive and in depth analysis of available data on mobility of researchers who participate in different academic cooperation programmes, mobility programmes and schemes (e.g. Horizon2020 and Erasmus+) was conducted. The aim of this was not only to evaluate trends and patterns of mobility and academic cooperation in the existing HE policy framework, but also to process empirical data in a way that allows identifying synergies and opportunities for up-scaling by clustering existing research cooperation both geographically and thematically. Based on this cluster analysis, needs and potentials for the up-scaling of bi-regional cooperation and mobility are explored in order to develop policy recommendations in

[4] The EULAC-Foundation initiated a mapping process of existing entities active in the framework of EU-LAC relations, which was significantly enriched by the EULAC-Focus research. For the complete mapping check: https://eulacfoundation.org/en/search/mapeo.

[5] See: https://eulacfoundation.org/en/search/mapeo

support of the Joint Initiative on Research and Innovation and the establishment of a Common Research Area. The results of the cluster analysis are presented in chapter 5.

Additionally, as a complementary approach to this an analytical assessment of the most active funding agencies enabling bi-regional scientific cooperation was conducted. Using this method seemed especially relevant as tracing the funding roots of scientific co-publications allows to add another piece to the puzzle EU-LAC cooperation, investigating national research funding agencies, their priorities and their cooperation patterns in the bi-regional framework. The results of this analysis make up the main part of the report and are presented in chapter 6 and 7.

Focus area III – Best practices and upscaling potentials. Being aware of differences in terms of institutionalisation of academic networks, mobility schemes and funding programmes as well as internationalisation of universities, research facilities and funding agencies in the two regions the second methodological step was to select a number of networks and schemes out of the mapping for closer examination. Therefore 11 networks were identified that were considered as a sample of best practices from different levels of bi-regional cooperation, including projects funded by the EU (H2020, FP7, Erasmus+), as well as regional and bi-regional academic networks and mobility schemes.

These networks were treated as case studies of bi-regional cooperation and were qualitatively analyses by conducting expert interviews with representatives from these organisations. This step was crucial in order to add analytical depth to the quantitative analysis of cooperation patterns provided by the cluster analysis as well as the extensive mapping exercise and allowed to get first hand insights into what works well and what does not in the frame of EU-LAC STI relations. The results of this analysis are presented in chapter 8.

However, before the concrete analysis from the three perspectives is presented, chapter 2 introduces some background information on the role of academic mobility for bi-regional cooperation and different contexts in LAC and the EU. Furthermore, chapter 3 explains the methodological approach of the different chapters more in detail. To finalise the report, chapter 9 will synthesise the different pieces of the puzzle and give concrete recommendations for further up-scaling mobility and academic cooperation. The recommendations made in this report will further feed into the development of an Action Plan for strengthening EU-LAC relations and which will be elaborated as a final and crucial output of the EULAC-Focus project.

2 SETTING THE SCENE: THE ROLE OF MOBILITY IN BI-REGIONAL RELATIONS

For scientific communities, especially for the more peripheral ones, international collaboration is a very important factor in increasing scientific capacities and the inclusion into the global scientific

community. Mobility of the scientific community hereby is a key instrument to foster international collaboration and to tackle the rising complexity of research as well the high costs connected to it (Gaillard et al. 2013a, S. 157).

Therefore, mobility of researchers was chosen as one of the three pillars of the Common Research Area between the EU and CELAC, agreed upon in the Senior Officials Meeting (SOM) 2016 in Brussels. Mobility is seen as a key factor in reaching the objectives already laid out in the Madrid Action Plan in 2010, such as an improved quality and effectiveness of scientific cooperation between the two regions (Council of the European Union, p. 4). Arguably, the circulation of knowledge is fostered through mobility of researchers and therefore information exchange becomes more effective, which in turn leads to mutually beneficial outcomes.

To maximize the beneficial outcomes of scientific mobility, some preconditions should be met (Vessuri 2003, p. 6). For one, common standards of universities assure a seamless flow of researchers and help overcoming barriers preventing researchers or students from moving freely between different higher education institutions. Furthermore, the mutual recognition of qualifications is a key to enabling mobility between diverse countries with different educational systems. In relation to this, quality assurance and evaluation procedures are important, as they allow applying the comparison of different higher education institutions. The basis of these conditions is a developed scientific infrastructure as well as research capacities which are able to deal with science in an internationalised context.

Looking at the European Union, these preconditions for mobility have been strengthened with the implementation of the Bologna process and the standardised European Credit Transfer System (ECTS). Although criticised for its problematic implications regarding economization, university autonomy and educational liberty the Bologna process surely was a big step in terms of internationalization of European universities (see Schulmeister and Metzger 2011, Kellermann 2016). Further, the European Qualifications Framework (EQF) serves as a tool to make qualifications earned in different EU countries more readable and transferable. In the area of evaluation, the Institutional Evaluation Programme of the European University Association has developed a benchmark tool for European universities.

On the LAC side, no comparable standardised system exists. However, various initiatives such as the iberoamerican mobility platform ***Campus Iberoamérica***[6] are approaching the different preconditions mentioned above. In terms of capacity building towards internationalization, progress has been achieved through both the work of regional academic networks (UDUAL, AUGM, AUDALCPI, etc.) and projects and collaboration programmes funded by the EU (Erasmus+, ALFA, etc.). Recently, there are also several initiatives tackling the issues of university evaluation on a regional level, such as SIELU – The Latin America University Evaluation System developed by CLACSO (Consejo Latinoamericano de Ciencias Sociales) or the CEAI – International Evaluation and Accreditation Council by UDUAL (Unión de Universidades de América Latina y el Caribe). These processes show that Latin American and Caribbean associations are aware of the needs that are required if internationalisation and a Common Research Area should be achieved. Arguably, there has also been some progress as regards regional and international mobility schemes and the integration of academic networks in international cooperation (Gacel-Ávila 2014, p. 3)

[6] https://campusiberoamerica.net/es/acerca-de

However, mobility has to be understood as a multifaceted phenomenon that effects knowledge circulation in different ways and does not only have positive effects. In case of long term or permanent mobility, the phenomenon of "brain-drain" can come into effect and lead to a loss for the emitting society. Therefore, already in the Madrid Action plan it is stated that the goal of bi-regional scientific cooperation should be to foster cooperation for human and institutional capacity building and encourage the return of researchers to their countries of origin" (Council of the European Union, p. 2). The ideal scenario foresees that researchers who undertake abroad stays eventually return to their home country and create transnational collaborations which include home and receiving country (Andújar et al. 2015, p. 324).

As mentioned before, the professionalised internationalization of higher education institutions is crucial to foster bi-regional cooperation in the scientific area. Arguably, mobility is only one component of the internationalization, but it does not only depend on an institutional framework but also contributes to a further internationalization of universities. Gacel-Ávila differs between three levels of higher education in which internationalisation has to be included (Gacel-Ávila 2014, p. 1): the macro (decision - making and policy design), the medium (curriculum structure), and the micro (teaching and learning activities). Mobility, on a very basic notion understood as the physical mobility of researchers or other academic personnel, is located at the micro level, as its effect is limited to the individuals themselves. However, it can also become relevant on the medium level, as for example joint Master or PhD programmes can lead to mobility between regions, additionally affecting the degree of internationalisation of the curricula of a university. Finally, from a long term perspective, mobility on these two levels also contributes to a more structural change in decision making processes, adapting higher education systems to the realities of a globalized knowledge economy. In addition to the mobility, international research and academic networks have a crucial role to play in this process, as they are also deeply interconnected with international cooperation through mobility and nurture the possibility of more democratic and cosmopolitan knowledge societies (Teodoro 2015, p. 28).

Academic networks are also at the centre of attention of this report, as they build a crucial frame not only for enabling mobility, but also as a potential instrument to coordinate bi-regional mobility with the joint elaboration of research priorities and identification of work areas. The number of networks in the academic area is vast and encompasses a diverse field of networks on research, innovation, thematic priorities, disciplinary orientation or political issues. The knowledge flows that are created through these networks not only link the public and private sector, but also distribute knowledge in a flexible and adaptive way that meets the requirements of a digitalized knowledge economy (Vessuri 2003, p. 6). The range of actors included is equally diverse and ranges from traditional universities to science and technology organizations, university associations, rectors conferences, student mobility and exchange groups, development assistance agencies, student recruitment bodies, quality assurance agencies or funding agencies (Jaramillio und Knight 2012, p. 335).

Although these networks are created with the target of tackling specific objectives, they can serve as a reference point in the development of a more stable bi-regional cooperation scheme that institutionalises researcher and student mobility as a mutually beneficial way of internationalizing science and strengthening academic collaboration. Arguably, it is this experience in the area of academic networks, may they have been established by dedicated multilateral funding mechanisms or developed through the interest of the institutions for cooperation, on which decision-making processes should base their further interventions. Therefore, this report focuses on insights that are

derivable from some exemplary cases in this area. The next chapter describes more in detail how this is done from a methodological point of view.

3 METHODOLOGICAL ASPECTS

As the introduction explained, this report is focusing on three different areas, each associated with one or multiple objectives of Task 4.1 of the EULAC-Focus project. To cover these objectives different approaches were needed which allowed to treat the different focus areas adequately. Figure 1: Mixed methods approach for analysing EU-LAC cooperation and mobility patterns. explains the relation and connection between the three focus areas, associated research objectives and the methods used to investigate these areas:

1. **Mapping**

As a first and basic step, a mapping of key actors of bi-regional academic cooperation and mobility was conducted. While it is relatively easy to determine the relevant programmes from the EU side, the scene in LAC is a bit more diversified, with several different players engaging in academic collaboration and mobility programmes. Therefore, the mapping exercise was done by screening three sets of data sources:

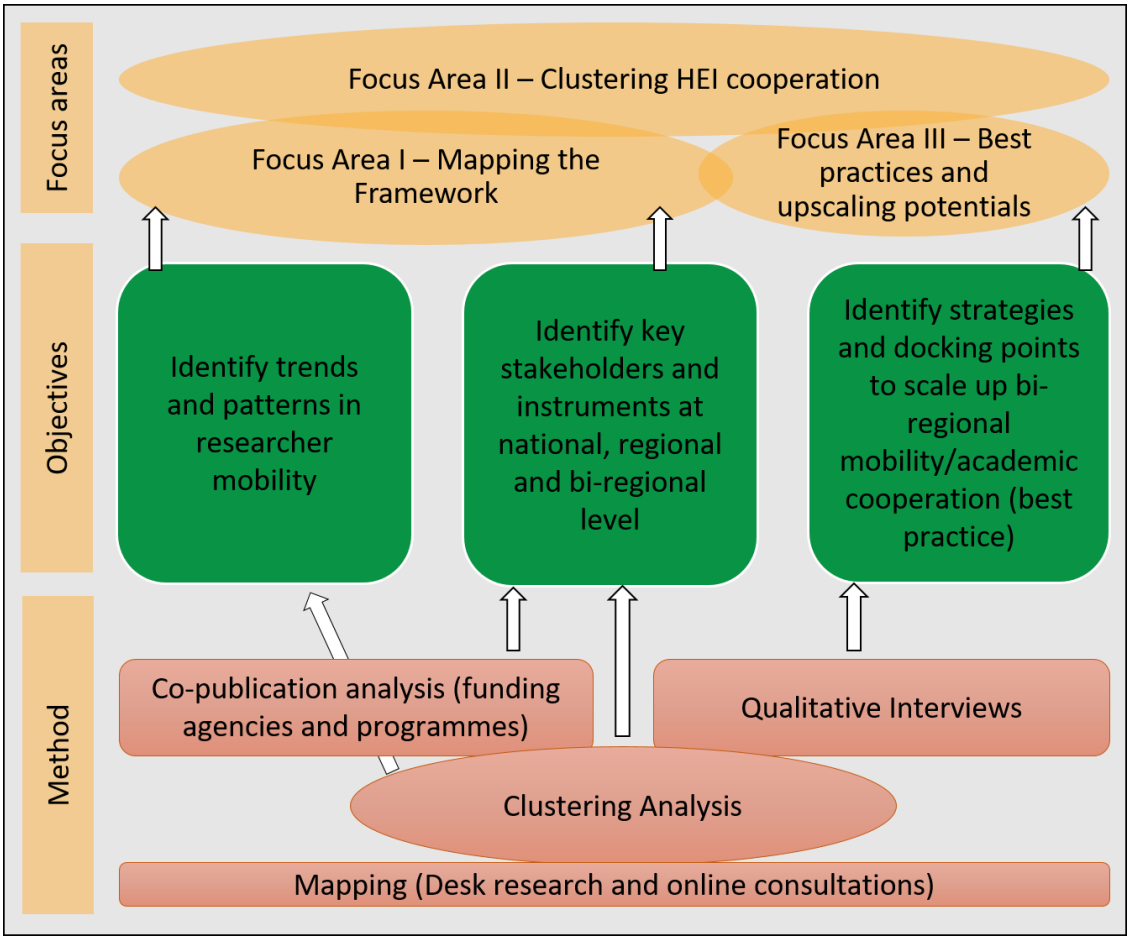
1. Pre-existing data-bases (e.g. from the ALCUE NET project[7], MAPEO-Project of the EULAC Foundation)
2. Literature and online research (e.g. World bank, CORDIS)
3. Consortium—partner consultation

This mapping exercise primarily looked for bi-regional and regional networks engaging in cooperation in the field of Higher Education and mobility, but in the case of LAC also includes some national networks like rector's conferences and Alumni networks. In chapter 4 a brief description of the mapped networks and projects is given, including a visualisation of selected bi-regional and regional LAC networks[8]. A broad definition of academic network was hereby used, using the participation of at least one higher education institution and the clear focus of some sort of knowledge exchange (scientific, strategic, administrative) or the focus on mobility itself as a criterion for selection. Insights into this mapping exercise are presented in chapter 4.

[7] The ALCUE NET project was an INCO action funded under FP7 and supporting the EU-CELAC SOM meetings by delivering analytical and administrative inputs.

[8] The visualisation was elaborated using R and specific extensions for visualising tri-bartite networks, allowing interactive data manipulation.

Figure 1: Mixed methods approach for analysing EU-LAC cooperation and mobility patterns.



2. Clustering Analysis

While the mapping exercise focused on providing an overview of institutions, networks and schemes in place in the framework of EU-LAC HE cooperation, an additional step was necessary to identify the thematic and geographic patterns of cooperation. This meant looking at very different environments in LAC and EU and, in terms of bi-regional mobility, focusing on existing EU funded programmes. These programmes (e.g. H2020, Erasmus+) were analysed using a clustering approach. The applied thematic and geographic clustering analysis provides the empirical basis for identifying the suitable geographic and thematic areas for building up research clusters enhancing the impact, sustainability and effectiveness of EU funded International projects by making use and promoting interdisciplinary and cross-regional synergies.

The clustering analysis loosely follows the clustering tool approach promoted by Macia (2015), aiming to identify associations within qualitative data (e.g. Project titles, objectives of H2020 and Erasmus+ projects) in terms of the thematic orientation of cooperation. However, in the context of the EULAC-Focus project the identification of existing geographic and thematic cooperation patterns also means interpreting quantitative data in a way that allows putting forward policy oriented strategies capitalising on the results of this clustering exercise. Therefore, it was chosen not to follow the traditional approaches of clustering (e.g. hierarchical clustering, density-based clustering) but rather apply a policy-oriented approach providing the empirical basis for future programme design. The results of the clustering can be seen in chapter 5.

2a. Co-publication Analysis

While participation of LAC organisations and researchers in EU funded (framework) programmes was assessed by using official data provided by the EC (e.g. via CORDIS), no similar data source reaching the same coverage do exist in Latin America and the Caribbean. Therefore, this report additionally implemented an analysis of publicly funded co-publications in Web of Science. This analysis allows pinpointing the most active public institutions in terms of funding co-publications of European and Latin American and Caribbean researchers. Furthermore, it contributes to an assessment of international collaboration that leads to tangible outputs and that enhances cooperation. The analysis hereby focused on the identification of key funding institutions in LAC and the EU, taking into consideration also thematic cooperation clusters. The results of this analysis are presented in chapter 6.

3. Qualitative interviews

Although the stock-taking task as well as the clustering analysis produced a comprehensive overview on EU-LAC cooperation and a robust empirical base for exploiting existing synergies in the HE cooperation framework, it did not give sufficient insights in the challenges of academic cooperation and mobility or the needs of support to foster bi-regional collaboration and mobility. Therefore, 10 of these networks were selected for further in-depth study via qualitative interviews. An exploratory online survey was conducted to support the process of selecting relevant networks (see Annex IV for the survey results). To ensure a variety of experiences and perspectives, the academic networks represented the different categories of the mapping:

- regional LAC network;
- regional EU network;
- bi-regional network;
- EU-funded network (ALFA, Erasmus+, MSCA).

Representatives of the network were interviewed by means of a semi-structured expert interview (Liebold 2009). Expert interviews allow to re-construct the complex tacit body of knowledge of people working in the context of bi-regional HE education. The aim was not to validate previously gained hypothesis but rather to re-construct the context of meaning of challenges inherent to bi-regional cooperation. For the evaluation of the interviews the qualitative content analysis according to Mayring was chosen. This Evaluation method is well suited to filter out similarities and differences in the interviews and determine common challenges and obstacles for bi-regional cooperation (Flick 2002, p. 281f.). The analysis of the conducted interviews is presented in chapter 8.

FOCUS AREA I – MAPPING THE FRAMEWORK

4 BI-REGIONAL NETWORKS AND MOBILITY SCHEMES – INSTITUTIONS, SYNERGIES AND FURTHER POTENTIAL

The stock-taking exercise conducted in the course of this report came up with 1880 mapped academic networks, academic institutions, mobility schemes and cooperation projects[9] actively working in the framework of EU-LAC relations. The mapping was conducted in a thematically and organisationally open way, going beyond the Higher Education realm, but still allowing to easily discern between academic and non-academic institutions. Generally, the following five organisational types of higher education institutions and/or networks were mapped[10]:

- **Research Centres:** This category includes private institutions at least partly dedicated to study topics related to EU-LAC relations and/or specific issues in the other region.
- **Academic Institution:** Under this label, Higher Education institutions realising research activities in the EU or Latin America and the Caribbean in the framework of EULAC relations are subsumed.
- **Academic Network:** This category refers to an entity that is created to enforce synergies between its member organisations, as well as to gather efforts for a common reason. These networks and alliances can take place at a sub-regional, regional, bi-regional or international scale.
- **Cooperative Project:** This organisational type captures ongoing cooperation projects in the framework of EU funded research and higher education cooperation programmes (H2020, Erasmus+).
- **National programmes (only LAC):** In the category national programmes the mapping captures organisations and/or networks of researchers not associated with a HEI.

Notably, also other types of organisations are included in the mapping, like business chambers, public institutions or civil-society organisations, but for the purpose of this report the HEI are the ones of interest. Besides these 5 organisational academic types, also a classification in terms of geographical level was undertaken. For this purpose, 5 levels of interaction were defined, determining on which level the organisational types are located and operate:

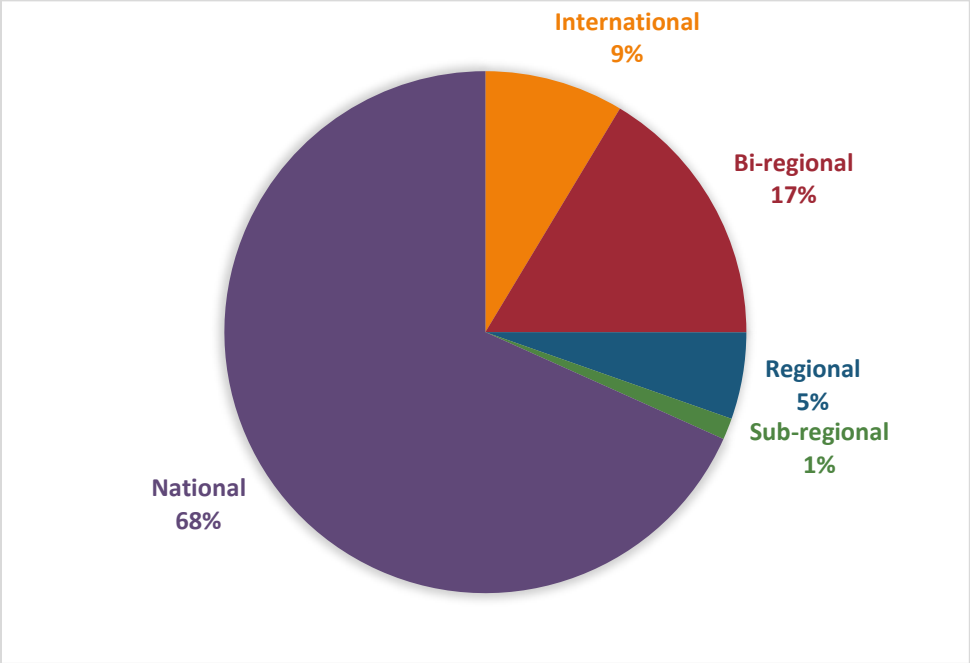
- **International:** Operating on a global scale.
- **Bi-regional:** Operating on a bi-regional (EU-LAC) level.
- **Regional:** Operating either in the EU or LAC.
- **Sub-regional:** Operating only in selected countries in the EU or LAC.
- **National:** Operating on a national level.

Of the 1880 total cases, the vast majority are national organisations (1283), whereas 308 organisations operate on a strict bi-regional basis. The third biggest share of organisations focuses their operations

[9] Of these 1516 were gathered by the MAPEO project initiated by the EULAC foundation, 364 were added by the EULAC Focus project through desk research.
[10] For a more detailed description see: https://eulacfoundation.org/sites/eulacfoundation.org/files/files/Guide%20MAPEO%20EN(2).pdf.

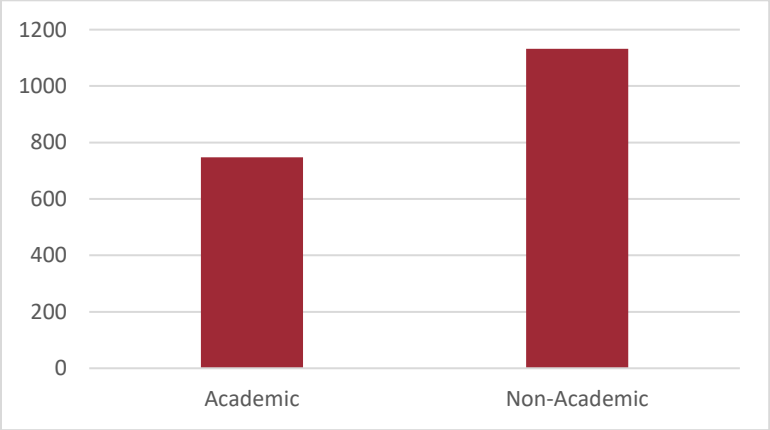
on an international level (162), while 101 of the organisations are active on a regional level. Sub-regional institutions are represented with 25 cases in the database.

Figure 2: Level of Geographic operation of institutions active in the EU-LAC framework.



The stock-taking exercise showed, that both in LAC and the EU there is a rich system of different academic networks is in place. In order to analyse the structure of higher education and research cooperation in the framework it is more intriguing to look specifically at the academic institutions active in this field. Out of the 1880 total cases, 748 are classified as belonging to one of the categories introduced above. Figure 3: Distribution of mapped organisations. shows that a majority of mapped organisation belongs to the academic realm, meaning to one of the five categories introduced above.

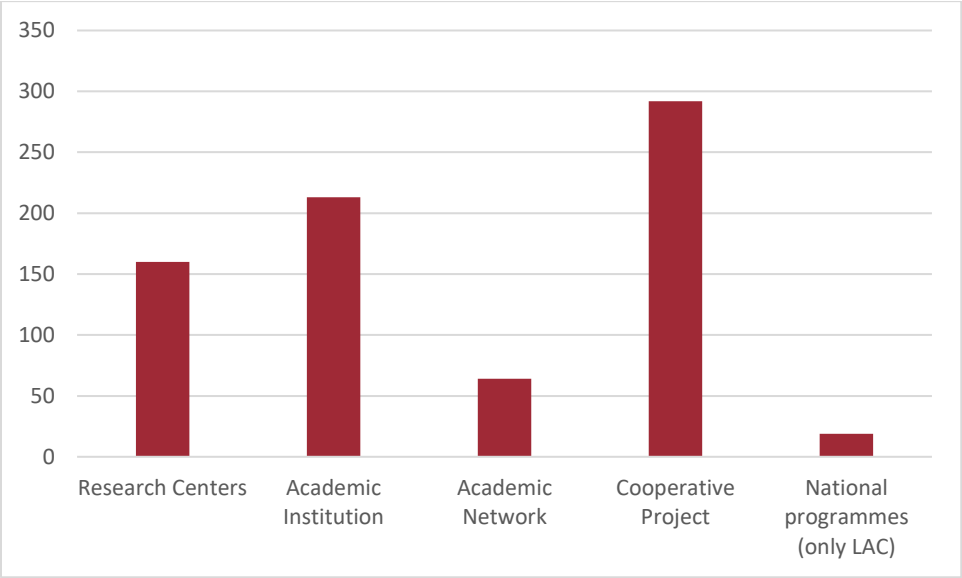
Figure 3: Distribution of mapped organisations.



Taking a closer look, Figure 4 illustrates that the biggest share of organisational types mapped as active in the EU-LAC higher education relations belongs to cooperation projects (292), meaning in this case

all active[11] Erasmus+ and H2020 projects with EU and LAC participation. This group is followed by academic institutions (213), mostly in the form of HEI with a focus on LAC or EU studies, operating on a national level. Closely followed is this organisational type by research centres (160) such as the Centro Latinoamericano para las Relaciones con Europa (CELARE). 64 of the mapped organisations can be considered as an academic network, like for example the "Fundacion Universitaria Iberoamericana-FUNIBER".

Figure 4: Distribution of academic organisations depicted in the mapping.



Arguably, the distribution of organisational types active in EU-LAC relations emphasises the notion that EU funded cooperation schemes are by far the most important link between EU and LAC in the realm of HE and research. Not only are most of the academic cooperation efforts taking place via the EU schemes, but they are the platform where most of the specifically bi-regional interaction takes place (95%). This highlights not only the importance but also the thematic steering capacity that is inherent to the EU cooperation programmes. For more insights into the thematic priorities and synergies of EU funded EU-LAC cooperation see chapter 5.

Besides the thematic focus of EU funded cooperation projects, it is also interesting to see into which direction the academic networks head that are independent from EU financed cooperation channels. Table 1 gives an insight into the thematic and geographic focus of all the 64 academic networks in place and mapped that work in the framework of EU-LAC relations. Topics treated in these networks reach from issues such as working rights and economic development to sustainability, research and innovation or internationalisation.

[11] As of 01.01.2019.

Table 1: Academic networks on all geographical levels.

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
ACHEA - The Association of Caribbean Higher Education Administrators	LAC, AR, BO, BR, CO, CR, CU, EC, SV, GT, HN, MX, NI, PA, PY, PE, DO, UY, ES, PT, IT, PL, LT	Regional	Academic network	Knowledge exchange, Internationalisation, higher education
AIJDTSSGC - Asociación Iberoamericana de Juristas de Derecho del Trabajo y la Seguridad Social «Dr. Guillermo Cabanellas»	EULAC,BR, AR, BO, CL, CU, CR, SV, EC, GT, HN, MX, NI, PA, PY, PE, UY, VE, HAT, DO, ES, PT, IT, FR	Bi-regional	Academic network	Working rights, social inclusion, labour studies
ANR - National Recotrs Assembly	PE	National	Academic network	Higher education
ANUIES - Asosciación Nacional de Universidades e Instituciones de Educación Superior	MX	National	Academic network	Higher education
APICE - Asociación Panamericana de Instituciones de Crédito Educativo	LAC, CO, PE, DO, VE, BO, BR, MX,	Regional	Academic network	Scholarships, access to universities
ARIUSA - Alianza de Redes Iberoamericanas de Universidades por la Sustentabilidad y el Ambiente	EULAC, AR, BR, CL, CO, CR, EC, GT, MX, NI, PE, DO, UY	Bi-regional	Academic network	Sustainability, environmental studies
ASCUN - Association of Colombian Universities	CO	National	Academic network	Higher education

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
Asociación Española de Normalización y Certificación (AENOR)	ES	National	Networks/alliances	Economy and sustainable development
Asociación Latinoamericana de Archivos (ALA)	BR	Regional	Networks/alliances	Governance, political affairs, science, research and Innovation, culture, social affairs
AUGM - Asociación de Universidades Grupo Montevideo	LAC,AR, BL, BR, CL, PY, UY	Regional	Academic network	Research and innovation, higher education
AUIP - Asocioación Universitaria Iberoamericana de Postgrado	EULAC, AR, BO, BR, CL, CO, CR, CU, EC, SV, GT, MX, NI, PA; PY, PE, PT, DO, UY, VE, ES, PT	Bi-regional	Academic network	Academic cooperation, knowledge exchange, Research and Innovation
AULA CAVILA - Campus Virtual Latinoamericano	EULAC, AR, BR, CL, MX, NI, PA, HN, PY, CO, CU, ES, PT, IT, PL, LT	Bi-regional	Academic network	Knowledge exchange
AULACPI - Asociación de Universidades de América Latina y el Caribe para la Integración	LAC, AR, BO, BR, CL, CO, CU, EC, SV, HAT, MX, NI, PY, PA, PE, VE	Regional	Academic network	Higher education, Regional Integration, knowledge exchange
AUPRICA - The Association of Private Universities	LAC, CR, GT, HN, NI, PA, SV	Regional	Academic network	Academic excellence, higher education, knowledge exchange, internationalisation, accreditation systems

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
BULA project	LAC, FJ, PG, WS, TL	Regional	Academic network	Higher education, mobility
Caribbean Knowledge and Learning Network	AG, BS, BB, BZ, DM, GD, GY, HT, JM, KN, LC, VC, SR, TT	Sub-regional	Networks/alliances	Governance, political affairs, science, research and innovation
CEUB - Executive Comittee of Bolivian Universiteies	BO	National	Academic network	Higher education
CIELO - Comunidad para el Estudio Laboral y Ocupacional	EULAC,BR, AR, BO, CL, CU, CR, SV, EC, GT, HN, MX, NI, PA, PY, PE, UY, VE, HT, DO, ES, PT, IT, FR	Bi-regional	Academic network	Social inclusion, labour studies
CIN - National University Council	AR	National	Academic network	Higher education
CINDA - Centro Interuniversitario de Desarrollo C	LAC, AR, BO, BR, CO, CR, CL, EC, MX, PA, PY, PE, DO, UY, VE, AR, BO, BR, CO, CR, CL, EC, MX, PA, PY, PE, DO, UY, VE	Regional	Academic network	Research and innovation, internationalisation, knowledge exchange
CLASCO - Consejo Latinoamericano de Ciencias Sociales	LAC, UK, DS, PT, IT, FR, NE, NL ,AR, BR, BO, EC, DO, MX, GT, CO, PY, CU, HAT, NI, CL, HN, CR, SV, NI, PA, PE, UY, VE,	Regional	Academic network	Social sciences, knowledge exchange, public policy, social inclusion, open access, democratic societies
COLUMBUS	EULAC, BE, IT, IR, ES, PT, AR, CR, BR, EC, PE, MX, CL, CO, VE,	Bi-regional	Academic network	Higher education, modernisation, internationalisation

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
CONARE - National Council of university Presidents	CR	National	Academic network	Higher education
Convenio Andrés Bello - Instituto Internacional de Integración	EULAC, BO, CL, CO, CU, EC, MX, PA, PY, PE, DO, VE, ES	Bi-regional	Academic network	Regional integration, internationalisation, knowledge exchange
CRISCOS - Consejo de Rectores por la Integración de la Subregión Centro Oeste de Sudamérica	LAC, CR, GT, HN, NI, PA, SV	Regional	Academic network	Regional integration
CRP - Panama Rectors' Council	PA	National	Academic network	Higher education
CRUB - Brazilian Rectors' Conference	BR	National	Academic network	Higher education
CRUCH- Council of Rectors of Chilean Universities	CL	National	Academic network	Higher education
CSUCA - Consejo Superior Universitario Centroamericano	LAC, GT, BZ, SV, HN, NI, CR, PA, DO	Regional	Academic network	Regional integration, knowledge exchange
CUIB - Consejo Universitario Iberoamericano	EULAC,AR, BO, BR, CO, CR, CU, EC, SV, GT, HN, MX, NI, PA, PY, PE, DO, UY, ES, PT, IT, PL, LT	Bi-regional	Academic network	Regional cooperaiton, knowledge exchange, higher education, LAC researcher mobility
ECCAM - Education for Climate Change Adaptation & Mitigation	LAC, FJ, GY, TT	Regional	Academic network	Higher education, mobility, climate change, sustainability

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
EUA - European University Association	EU	Regional	Academic network	Higher education, regional integration, knowledge exchange
EUCARINET-Fostering EU-Caribbean Research and Innovation Networks		International	Networks/alliances	Governance, political affairs, higher education, education for work, science, research and innovation
EURAXESS	EULAC	International	Network/information platform	Research and innovation, knowledge exchange
European Association of Craft and SMEs (UEAPME)	BE	Regional	Networks/alliances	Corporate social responsibility, social affairs
FLACSO - Facultad Latinoamericana de Ciencias Sociales	LAC, AR, BR, CL, DR, CU, EC, SV, GT, HN, MX, PA, PY, DO, UY, ES	Regional	Academic network	Social sciences
Foodfirst Information and Action Network (FIAN)		International	Networks/alliances	Economy and sustainable development
Foro Académico permanente ALC-UE	EULAC	Bi-regional	Academic network	Higher education, social inclusion, EU-LAC relations
Forum Empresa		International	Networks/alliances	Governance, political affairs, economy and sustainable development, corporate social responsibility, social affairs

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
FUNIBER - Fundacion universitaria Iberoamericana	EULAC, AR, BR, CL, CR, CU, EC, SV, GT, HN, MX, NI, PA, PY, PE, DR, UY, ES, IT, PT,	Bi-regional	Academic network	Internationalisation, higher education
German Academic Exchange Service	AR, BR, DE, MX	National	Networks/alliances	Higher education, science, research and innovation, economy and sustainable development
Harmonization and Innovation in Central American Higher Education Curricula: Enhancing and Implementing the Regional QF "HICA"	EULAC, GT, SV, HN, NI, CR, PA, ES, IR, IT, BE, DE	Bi-regional	Academic network	Research and innovation, higher education
Iberoamerican Network of Universities for CSR (REDUNIRSE)	AR, BO, BR, CL, CO, CR, CU, DO, EC, SV, GT, HN, MX, NI, PA, PY, PE, PT, ES, UY, VE	International	Networks/alliances	Higher education, economy and sustainable development, corporate social responsibility, social affairs
International Juvenile Justice Observatory (OIJJ)		International	Networks/alliances	Governance, political affairs, justice and human rights, security, social affairs
International Organisation of Industrial, Artisanal and Service Producers' Cooperatives (CICOPA)		International	Networks/alliances	Economy and sustainable development

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
Investigation Group INVIUS	CO	National	Networks/alliances	Governance, political affairs, justice and human rights, security, higher education, climate change and environment, economy and sustainable development, corporate social responsibility, culture, social affairs
IOHE - Inter-American Organisation for Higher Education	EULAC, AR, BS, GP, BO, BR, CL, CO, CR, CU, DO, EC, SV, GT, GY, HAT, HN, JM, MX, NI, PA, PY, PE, UY, VE, ES	Regional	Academic network	Higher education, gender, research and innovation, knowledge exchange, open access
LERU - League of European Research Universities	EU	Regional	Academic network	Research and innovation, higher education, EU policy
National Higher Education Council of Paraguay	PY	National	Academic network	Higher education
NeTropica Network for Research and Training in Tropical Diseases in Central America	LAC	Regional	Academic network	Tropical diseases, medicine
OBREAL - Observatorio de las realciones Unión Europea - América Latina	EULAC	Bi-regional	Academic network	Higher education, social inclusion, EU-LAC relations
ODUCAL- Organización de Universidades Catolicás en	LAC, MX, GT, SV, HN, CR, NI, PA, DO, CO, VE, EC,	Regional	Academic network	Social inclusion, higher education

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
América Latina y el Caribé	PE, BR, BO, PY, UY, AR, CL			
RECLA - Red de Educación Continua de América Latina y Europa.	EULAC, AR, BR, CL, CO, CR, EC, GT, MX, NI, PE, DO, UY, ES	Bi-regional	Academic network	Social Inclusion, knowledge exchange
Red de Macrouniversidades Públicas de América Latina y el Caribe	LAC, AR, BR, BO, CO, CR, CU, CL, EC, SV, GT, HN, MX, NI, PA, PY, PE, DO, UY, VE	Regional	Academic network	Higher education, researcher mobility, internationalisation
Rede Magalhães	EULAC, BE, CZ, FR, FI, DE, IT, PL, PT, ES, SE, UK, AR, BR, CL, CO, DO, MX, PA, PE, VE	Bi-regional	Academic network	Research and innovation, higher education, knowledge exchange
REDULAC-RRD Red Universitaria de América Latina y el Caribe para la Reducción del Riesgo de Desastres	LAC, CO,MX,CL,PA,GT, VE	Regional	Academic network	Climate change, sustainability, environmental studies
RIACES - Red Iberoamericana para el Aseguramiento de la Calidad en la Educación Superior	EULAC, BR, BO, CL, CO, CR, CU, EC, SV, MX, NI, PA,PY, PE, DO, UY, ES	Bi-Regional	Academic network	Research and innovation, higher education, knowledge exchange, evaluation
RLCU - Red Latinoamericana de Cooperación Universitaria	LAC, AR, BO, BR, CL, CO, CR, EC, SV, GT, HN, MX, NI, PA	Regional	Academic network	Regional integration, internationalisation, academic excellence, science-society relations

Organisation name	Country	Geographical level	Type of organisation	Thematic focus
UDUAL - Unión de Universidades de América Latina y el Caribe	LAC, AR, BR, BO, CO, CR, CU, CL, EC, SV, GT, HN, MX, NI, PA, PY, PE, DO, UY, VE, JM, HT	Regional	Academic network	Higher education, knowledge exchange
UNAH - Higher Education Directorate of Honduras	HN	National	Academic network	Higher education
UNAMAZ - Association of Amazonian Universities	LAC, BR, BO, CO, EC, GY, SR, PE, VE	Regional	Academic network	Research and innovation, internationalisation, higher education
UNICA - ASOCIACIÓN DE UNIVERSIDADES E INSTITUTOS DE INVESTIGACIÓN DEL CARIBE	EULAC, TT, JM, DO, VE, AR, GP, GY, FM, HAT, UK	Regional	Academic network	Knowledge exchange, internationalisation

In general, thematic focus areas of the mapped actors in the field of academic cooperation were classified into five categories, following the priorities set in the bi-regional EU-CELAC Action Plan (2015) and slightly adapted from the categorisation used in the MAPEO project (EULAC-Foundation, 2017):

Governance and political affairs: The concept of "governance" is a crosscutting issue, which implies multidimensional coordination among different topics involved in the public bi-regional agenda. This means focusing operational work on political issues in the bi-regional relations.

Higher Education: This category includes research activities (public and private), academic and higher education services, as well as education/ training programmes offers in universities, education institutions or professional training centres. This includes capacity building projects, cooperation for internationalisation or also mobility efforts trying to implement structural reform in/with HEI.

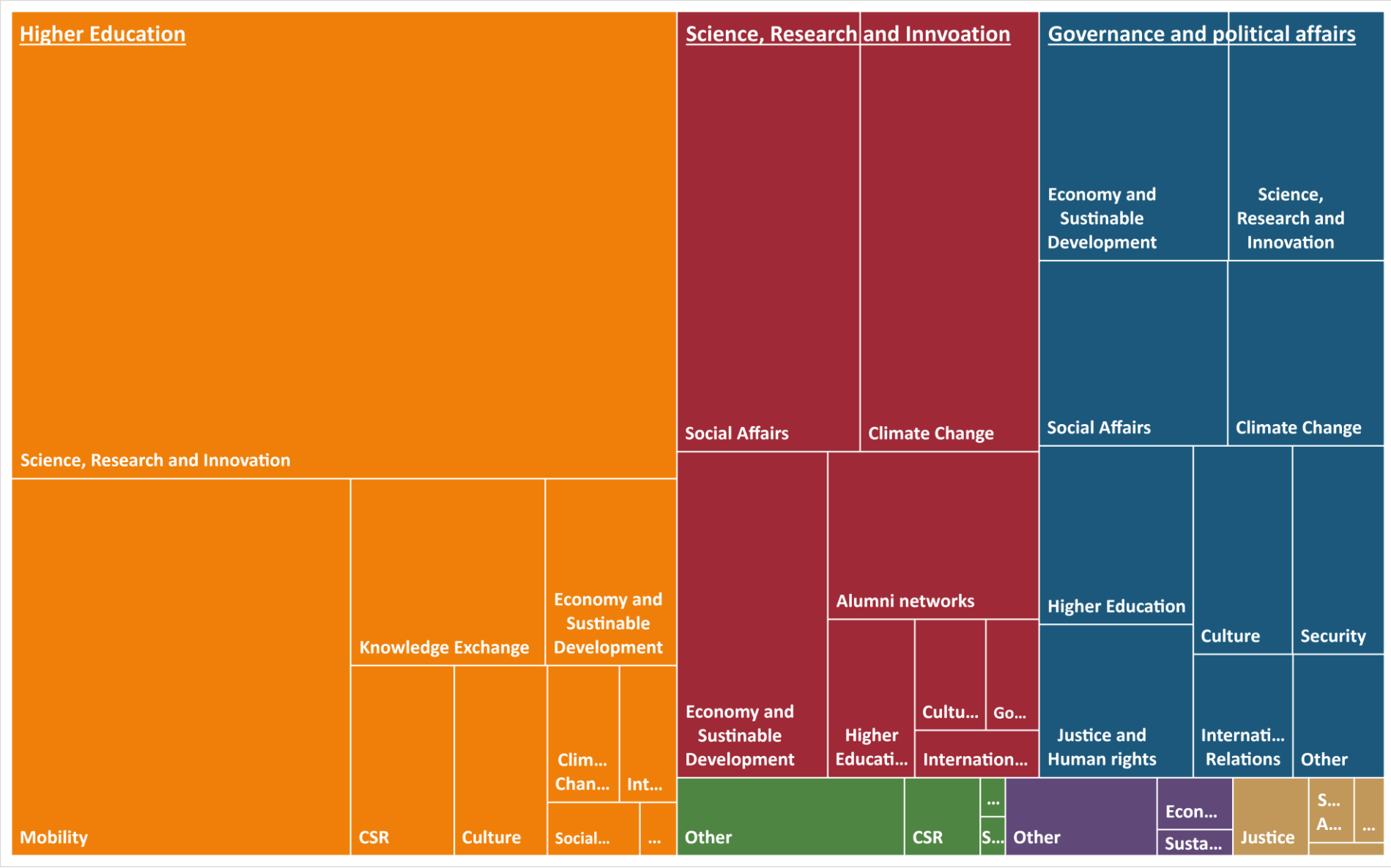
Climate Change and Environment: This category involves activities aimed at improving environmental conditions in both regions. The climate change and environmental issues are directly linked to the concept of sustainable development.

Economy and Sustainable Development: The economy and sustainable development category include all public policies, initiatives, activities and business enterprises designed to improve the human, environmental and economic conditions of the Member States of the EU and CELAC.

Science, Research and Innovation: This category includes entities in charge of scientific and research activities, as well as innovation and technological development actions. It also covers cooperative projects which have as their prime focus scientific gain of knowledge or new and innovative technologies contributing to inclusive and smart growth.

Obviously this categorisation is not always clear-cut but comes with overlaps and multiple belongings. Although this categorisation is quite abstract, it allows a first insight into the structure of the institutional network active in the EU-LAC framework. Figure 5 visualises the thematic focus areas of the cases included in the mapping.

Figure 5: Thematic focus areas of the key actors in the EU-LAC academic cooperation framework.



The sub-fields were elaborated by categorising the focus areas in primary, secondary and tertiary priority fields. For example, a H2020 cooperation project is primary a Science, Research and Innovation action, but can on a project level be focused on different topics such as health, social issues or sustainability. In the figure above the sub-ordinated focus areas represented as smaller rectangular having the same colour as the overall category. By doing so, the figure gives not only an overview on the distribution of the categories introduced above, but also breaks the five focus areas down into multiple sub-fields, showing a differentiated picture of the EU-LAC academic cooperation framework. Figure 5 shows that all in all, almost half of the actors and instruments represented in the mapping (47%) have core issues of "Higher Education" as their main interest. This means that academic networks, institutions, research centres and cooperation projects deal with issues exclusively anchored in the framework of HEI such as universities. This includes for example the capacity building projects of the EU-funded Erasmus+ Key Action 2, which aim towards increasing capacities in LAC universities towards internationalisation and modernisation.

Taking a closer look, the three most important sub-fields of this area are Science, Research and Innovation, Mobility and Knowledge Exchange. This highlights the fact that mobility is one of the core concerns of HEI and that knowledge exchange is highly encouraged and of crucial importance in order to strengthen the ties between different HE actors, especially in a bi-regional context. However, the high representation of Science, Research and Innovation needs some explanation, as it overlaps with the category of Higher Education. In the context of Higher Education, the SRI subcategory subsumes HEI cooperation on different scientific issues, meaning that these actors do not only focus on the institutional context of higher education and on e.g. providing the necessary structures for mobility, but also on creating scientific knowledge in a specific field. Other areas that are covered by HEI actors are cultural topics, climate change, sustainability and corporate social responsibility (CSR).

While a clear HE focus in the EU-LAC framework is visible, the categories "Science, Research and Innovation" and "Governance and political affairs" are almost equally represented in the mapping. As regards the former, the strong research focus is differentiated across three main topics: Social affairs, climate change, economy and sustainable development. The sub-field "social affairs" hereby includes a variety of topics such as migration, youth, health or labour rights and its presence shows that the topics agreed in the EU-CLEAC action plan of 2015 are indeed present in EU-LAC research cooperation. The same holds true for the issue of climate change and sustainable development, which is a key topic in the EU-CELAC strategic partnership and is also present in the actual cooperation. However, while these topics are certainly present in the overall framework of research and innovation, they lack a real presence in specifically targeted networks and instruments explicitly focusing on climate change, sustainability and climate change, as the rather small amount of actors with these issues as main focus areas shows.

Looking at the actors and networks subsumed in the category of "Governance and political affairs" one can see an equal distribution of the different topics. However, this is also encouraged due to the fact that governance is a cross-cutting topic, meaning that a lot of the networks dealing with governance in general deal with multiple issues at a time. For example, a University department of an EU HEI focus on LAC political affairs is likely to deal not only with climate change but also with social policy, migration or sustainable development.

Although this thematic "clustering" allows gaining a first overview on what is going on in the framework of bi-regional EU-LAC relations, it comes with some flaws. First, the abstraction level of the

categorisation does not allow detailed insights into wat the specific topics of cooperation are. Second, it does not allow to get an insight into what are topics that are more highly represented in one of the regions or which are the actual topics present in exclusively bi-regional relations. Third, as the mapping partly consist of data which are self-inserted by the networks, and partly of data inserted by the authors of this paper, certain differences may arise in the exact classification. Regarding the first and the second flaw, chapter 5 will try to look more closely on a specific set of this mapping (EU funded cooperation projects) and go more into detail regarding thematic and geographic cooperation patterns.

Furthermore, Figure 6 is an illustration of the bi-regional academic networks presented in Table 1 combined with key LAC academic networks, highlighting some tendencies regarding bi-regional cooperation. It gives an idea on how cooperation in the bi-regional context looks like, if visualised, and points out that a certain set of key actors is crucial in connecting the two regions. For example, the bigger agglomeration on the top right shows that the bigger LAC networks[12], are connected to bi-regional networks[13] through a set of "gatekeeper" institutions[14] which have multiple affiliations. Through these "gatekeepers", a high number of higher education institutions are connected, at least indirectly. In the context of bi-regional cooperation, this is a chance to create synergies as these institutions potentially could work as intermediaries between different networks and foster the mutual exchange between these networks.

In the bottom-left corner of the visualisation, there are a few networks that are only loosely interconnected with the agglomeration on the top-right. These networks are regional LAC[15] and bi-regional networks[16], which have interconnections amongst themselves, but only loose connections to the strong network visualised in the upper-right. This shows that while there are some networks that are highly interconnected (especially the bigger ones), there are also bi-regional networks which have more difficulty to forge synergies with other networks. Further, the networks which can be seen at the top-middle and bottom-right of the visualisation, add another component to the picture. They are mostly networks of non-university associations like the Pan-American Association of Educational Credit or the Iberoamerican Network for Quality Assurance in Higher Education and are isolated in terms of participating institutions, although often national agencies participate in these networks, which means they have access to universities in other networks.

[12] More precisely the following networks: UDUAL-Union de las Universidades de America Latina y el Caribe, AUALCPI - Asociación de Universidades de América Latina y el Caribe para la Integración

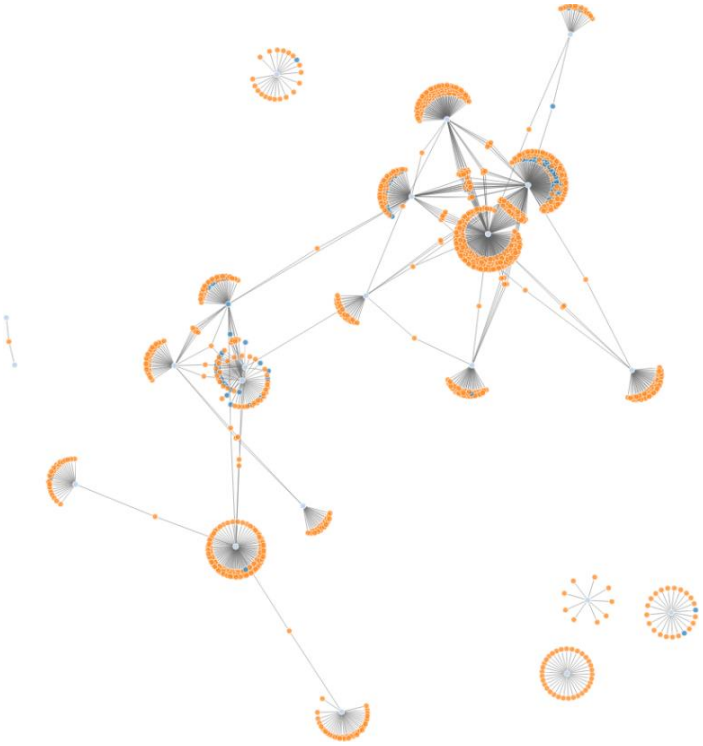
[13] RECLA - Red de Educación Continua de América Latina y Europa, AULA CAVILA - Campus Virtual Latinoamericano, AUIP - Asocioación Universitaria Iberoamericana de Postgrado

[14] For example, the following universities have more than three affiliations: Universidad de Buenos Aires, Universidad Nacional Autónoma de México, Universidad Técnica Particular de Loja, Universidad de Costa Rica, Universidad de Panama.

[15] Red de Macrouniversidades Publicas de América Latina y el Caribe, CSUCA - Consejo Superior Universitario Centroamericano, ODUCAL-Organización de Universidades Católicas en América Latina y el Caribe

[16] Grupo Magalhaes, CINDA - Centro Interuniversitario de Desarrollo, COLUMBUS Association.

Figure 6: Bi-Regional Academic Networks.



Source: Own elaboration.

All in all, the mapping process allowed to gained some first insights into the structure, orientation and landscape of EU-LAC cooperation in the bi-regional framework. Nonetheless, the data captured in the mapping cannot be considered as a complete overview on EU-LAC cooperation. In order to make profound recommendations on how to strengthen EU-LAC relations in the scientific dimension, this mapping exercise needs to be accompanied by an in depth analysis of a certain realm of cooperation where the data base is solidified and the thematic and geographic patterns can be deducted accordingly. Therefore, the next part of the report concentrates on the analysis of EU funded research cooperation projects with LAC participation as well as on the research cooperation funded by national funding agencies, trying to come up with geographic and thematic clustering proposals for strengthening and enhancing the impact and sustainability of EU-LAC cooperation in the scientific dimension.

FOCUS AREA II - CLUSTERING HIGHER EDUCATION COOPERATION

5 CLUSTERING - A NEW APPROACH TOWARDS STRENGTHENED EU-LAC RELATIONS

In order to identify actors, patterns and cooperation opportunities, different methods and approaches were chosen. One approach that was deemed to be very useful was the one of thematic and geographic clustering. This clustering offered a policy-oriented research strategy that provides analytical instruments to build up a knowledge base that serves as foundation for informed decision making and priority setting to strengthen EU-LAC relations in the scientific dimension. The approach is especially suitable to enhance the impact, sustainability and effectiveness of EU funded international projects by providing the basis for building up research clusters making use of existing synergies and potentially contributes to the foundation of highly innovative interdisciplinary and transnational research projects.

The aim of a policy-oriented clustering analysis is to foster new, and also extend existing transnational research cooperation of European countries with their Latin American counterparts as well as to support coordination of research efforts. The main aim of the analysis is to make visible geographic and thematic cooperation patterns in the Higher Education sector between the two regions. The thematic and geographic clustering analysis presented here provides the empirical basis for identifying the suitable geographic and thematic areas for building up research clusters, enhancing impact and sustainability of EU-LAC cooperation. Analytically, a differentiation between thematic and geographic clustering has to be made:

Thematic clustering: There is the general framework of call topics in EU funded projects, but in order to shift the focus on synergies and sustainability, it is necessary to get an insight into what is actually happening and to monitor this process continuously. This also allows creating synergies between projects and increasing their impact and sustainability. Thematic clustering also allows national countries to see if the participation of universities and other organisations is in line with national thematic priorities, and where additional funding or incentives are needed. Therefore, the analytical approach undertaken in the EULAC-Focus project asks the following questions.

<u>Identifying key topics and synergies:</u>

- Which thematic cooperation patterns can be identified in different schemes?
- How do these “thematic clusters” translate to a territorial level?
- How can clusters be used as building blocks to a Common Research Area?

Geographic Clustering: Whilst the thematic clustering is mostly focused on the topic of cooperation, the geographic clustering focuses on different regional patterns in cooperation. While some EU funded programmes (like e.g. Erasmus+) already formulate specific topics for cooperation with LAC, other, like e.g. funding agencies, are more open in the way they can steer research.

<u>Identifying actors and patterns:</u>

- Which regions/countries show strongest bi-regional cooperation patterns?

- Where could synergies between regions be used for up-scaling cooperation?
- Which are the main actors (e.g. Universities) in cooperation?

As already mentioned, the two regions have different scales in terms of mobility programmes in place. While the European Union, or more precisely the DGs Research and Innovation (MSCA in FP and H2020) and Education and Culture (Erasmus+) as well as the European Research Council (ERC), has implemented large scale programmes specifically targeting mobility of researchers and students, the situation in LAC is different. LAC mobility programmes which foster researcher, student and staff mobility in and sometimes also between the regions exist, but none of them comes close to the extension and regional coverage of their European counterparts, as they are mostly settled on a national level.

Therefore, the report tries to take a look outside the box and approaches the bi-regional cooperation not only by analysing CELAC participation patterns in EU funded cooperation programmes (see chapter 7) but also by looking at the role of national funding agencies in bi-regional cooperation (see chapter 6).

6 IDENTIFYING KEY INSTITUTIONS OF BI-REGIONAL MOBILITY - NATIONAL FUNDING AGENCIES

As the aim of this report is to identify enabling players in research cooperation and to further identify docking points for EU mobility strategies, the role of national funding agencies seems to be a crucial component. To do so, an analysis of scientific co-publications was chosen in order to identify the most active funding agencies enabling bi-regional scientific collaboration. A (co-)publication analysis usually aims at visualising collaboration patterns between defined regions or countries in terms of affiliated institutions, authors or topics, whereas co-publications are hereby defined as publications with contributions from researchers affiliated to at least one EU and one LAC country or institution.

Using this method is a valid approach, as scientific collaboration between EU and LAC is often the result of scientists' mobility. Gaillard et. al. show in a study of collaboration between EU and LAC Biologists, that over 90% of scientists who have co-published scientific papers, met their counterparts during long stays abroad (Gaillard et al. 2013b, p. 153). Therefore, a co-publication analysis was conducted looking at the publicly funded papers between EU and LAC researchers. The database that was consulted was Web of Science (WoS), as Scopus does not allow making the distinction between public or non-public funding. Obviously, the focus on this specific data source implies a certain bias in the data, as they only reflect publications present in the WoS database and therefore cannot be seen as a truly representative sample of EU-LAC cooperation. Nonetheless, the data set allows to detect trends and tendencies that characterise the EU-LAC cooperation patterns.

6.1 GEOGRAPHIC CLUSTERING OF EU-LAC FUNDING FLOWS

The analysis identified the top 50 public funding agencies[17] in terms of EU-LAC cooperation; eleven of them being from LAC (see

Table 2: Most active Latin American and Caribbean Funding Agencies). In total, in the WoS database (2005-2017) there are 176,507 EU-LAC co-published documents[18]. There is a total of 31,085 funding agencies within the EULAC sample, which funded research resulting in 102,621 documents (58.140%), while 73,886 documents (41.860%) are indexed by WoS as not funded. Amongst the top 50 funding agencies we find 11 LAC agencies and 39 EU agencies. In case of the Latin American funding agencies in the top 50, a clear dominance of Brazilian institutions is observable, as they take the first three spots in the ranking. The next single funding agency is the National Scientific and Technical Research Council (CONICET) from Argentina. Besides that, only the Administrative Department of Science, Technology and Innovation (COLCIENCIAS) from Colombia and Chiles National Commission for Scientific and Technological Research (CONICYT) appear on the list as a single funding agency. The case of CONACYT is special as it this acronym is used in Mexico, Bolivia and Paraguay and therefore cannot be counted as a single entity.

Table 2: Most active Latin American and Caribbean Funding Agencies

#	Country	Funding Agency	Records	Top 5 EU cooperation partners[19]	Records
1	BRAZIL	CNPQ - Conselho Nacional de Desenvolvimento Científico e Tecnológico	15645	FRANCE	5083
				GERMANY	4680
				SPAIN	4611
				ITALY	3457
				PORTUGAL	2984
2	BRAZIL	CAPES - Coordenação de Aperfeicoamento de Pessoal de Nível Superior	8645	FRANCE	2793
				SPAIN	2440
				GERMANY	2195
				PORTUGAL	1763

[17] The analysis filtered co-publications which were funded by a public funding agency from LAC or the EU.
[18] The full results can be found in Annex I.
[19] The number of papers funded with the different countries can be found in Annex I.

				ITALY	1681
3	BRAZIL	FAPESP- Fundação de Amparo à Pesquisa do Estado de São Paulo	7920	FRANCE	2891
				GERMANY	2860
				SPAIN	2733
				ITALY	2199
				UNITED KINGDOM	1866
4	MEXICO, BOLIVIA, PARAGUAY[20]	CONACYT - Consejo Nacional de Ciencia y Tecnología	6189	SPAIN	3071
				FRANCE	1962
				GERMANY	1740
				ITALY	1211
				UNITED KINGDOM	1089
5	ARGENTINA	CONICET - Consejo Nacional de Investigaciones Científicas y Técnicas	4048	SPAIN	1594
				GERMANY	1090
				FRANCE	889
				ITALY	441
				UNITED KINGDOM	276
6	CHILE	FONDECYT - Fondo Nacional de Desarrollo Científico y Tecnológico	4010	SPAIN	1328
				GERMANY	1085
				FRANCE	1062
				ITALY	469

[20] Due to the same name of the science ministries in these three countries, the results could not be separated.

				UNITED KINGDOM	455
7	ARGENTINA	ANPCYT – Agencia Nacional de promoción científica y tecnológica	2727	SPAIN	1434
				GERMANY	1102
				FRANCE	1034
				ITALY	834
				UNITED KINGDOM	693
8	BRASIL	FAPERJ - Fundação de Amparo à Pesquisa drenstado do Rio de Janeiro	2385	FRANCE	1470
				GERMANY	1303
				SPAIN	1161
				UNITED KINGDOM	1110
				ITALY	1069
9	*CHILE*	CONICYT .- Comisión Nacional de Investigación Científica y Tecnológica -+ *ECOS-CONICYT - Programa de Cooperación Científica*	2326	FRANCE	1195
				SPAIN	1181
				GERMANY	1027
				UNITED KINGDOM	791
				ITALY	782
10	COLOMBIA	COLCIENCIAS COLOMBIA - Departamento Administrativo de Ciencia, Tecnología e Innovación	2009	SPAIN	1599
				FRANCE	1422
				GERMANY	1418
				UNITED KINGDOM	1350

				CZECH REPUBLIC	1287

Source: Web of Science, own elaboration.

The table furthermore shows the cooperation partners of the different national funding agencies. Notably, the Top 5 collaboration partners are almost always the same, but in a varying order: France, Germany, Spain, Italy and England, with France being the preferred collaboration partner for Brazil and Spain being more important for the Spanish speaking LAC countries. Portugal is a special case and makes the Top 5 list twice with Brazilian institutions. Other EU countries that were at least mentioned once if we look at the Top 10 collaboration partners are Belgium, Czech Republic, Sweden, Denmark, Poland and the Netherlands.

In terms of European funding agencies, the agency most actively collaborating with LAC researchers was the German "Forschungsgemeinschaft" (DFG), with the primary collaboration partner being Brazil. In general, Germany is one of the most active countries in collaboration with Latin America, as two more funding agencies from Germany rank in the Top-10, namely the Ministry for Education and Science and the Max-Plank Gesellschaft (see Table 2) Arguably, the data show that German cooperation is very much focused on Brazil and does not show a high degree of diversity. Besides the German funding agencies five other national funding agencies made the list, two from Spain (Ministry of Science and Ministry of Economy), one from the United Kingdom: Science and Technology Facilities Council) and the Portuguese Foundation for Science and Technology.

Regarding the nationality of the researchers involved in co-publications, the trend observable from the most active funding agencies is continued. Besides Brazil only Argentina, Mexico, Chile and Colombia appear as frequent cooperation partners. In addition to these national partners, there are also three EU agencies appearing in the list, namely the European Commission and two of its agencies, the Regional Development Fund and the European Research Council. This illustrates that the EU as such is already deeply involved in cooperation with LAC researchers, funding co-publications to a high extent. However, German and Spanish national agencies are still surpassing the EU institutions in terms of absolute numbers, which shows that there is still room to grow and to get more active from a European Union perspective.

Table 3: Most active EU Funding Agencies

#	Country	Funding Agency	Records	Most active LAC partners amongst the TOP 10	Records
1	Germany	DFG GERMANY - DEUTSCHE FORSCHUNGSGEMEINSCHAFT	5168	Brazil*	2885
2	Spain		4443	Brazil	1466

		MICINN - SPANISH MINISTRY OF SCIENCE AND INNOVATION		Mexico	1190
				Chile	1036
				Argentina	999
3	Spain	MINECO - MINISTERIO DE ECONOMIA Y COMPETITIVIDAD (Ministry of Economy and Competitiveness)	4059	Brazil	1731
				Chile	1064
				Argentina	911
4	EU	EUROPEAN UNION - European Commission	2991	Brazil	1869
				Chile	912
				Argentina	657
5	Portugal	FCT PORTUGAL - Fundação para a Ciência e a Tecnologia	2885	Brazil**	2421
				Colombia	1036
6	EU	EUROPEAN RESEARCH COUNCIL	2545	Brazil*	1697
7	United Kingdom	STFC - Science and Technology Facilities Council	2375	Brazil*	1846
8	EU	ERDF -- EUROPEAN REGIONAL DEVELOPMENT FUND	2039	Brazil	1035
				Mexico	803
				Colombia	545
9	Germany	BMBF GERMANY - Bundesministerium für Bildung und Forschung	1922	Brazil*	1777
10	Germany	MPG GERMANY - Max Planck Gesellschaft	1730	Brazil*	1170

*** In this case, only two countries were in the Top-10 of cooperation partners of EU funding Agencies.*

** In this case, only one LAC country was under the Top-10 collaboration partners of this EU funding agency.*

Source: Web of Science, own elaboration.

6.2 THEMATIC CLUSTERING OF EU-LAC FUNDING FLOWS

While the above chapter introduced a general overview on the relevant funding agencies shaping the landscape of science cooperation between LAC and the EU, this section also considers the thematic orientation of the funding flows both regarding majority and minority flows. Table 4Table 7 shows how thematic funding is direct in terms of the most active LAC research agencies and their preferred European Cooperation partners.

In order to analyse these research areas, the thematic dimensions were classified into five different dimensions, following the approach available of Web of Science[21]:

- **Arts & Humanities:** Architecture, Arts, Philosophy of Science, Film Radio & Television, Religion, etc.
- **Life Sciences & Biomedicine:** Agriculture, Behavioral Sciences, Biochemistry & Molecular Biology, Biotechnology & Applied Microbiology, Environmental Sciences & Ecology, Genetics & Heredity, etc.
- **Physical Sciences:** Astronomy & Astrophysics, Chemistry, Mining & Mineral Processing, Physics etc.
- **Social Sciences:** Business & Economics, Communication, Cultural Studies, Development Studies, Public Administration, Social Issues, Social Sciences Other Topics, Urban Studies, etc.
- **Technology:** Automation & Control Systems, Computer Science, Engineering, Materials Science, Science & Technology Other Topics, etc.

Several key areas are identifiable through the in depth analysis of co-publications in Web of Science. For one, it becomes obvious that most of the funding of the top LAC agencies is directed towards the areas of Physical Sciences and Technology. For all funding agencies, the share of funding going to co-publication in these two areas is above 50% with all cooperation countries. Physics and Astronomy and Astrophysics, as well as Chemistry, Engineering and Material Sciences are hereby the most used funding categories. Notably, the fields of Arts & Humanities and Socials Sciences are not represented in the top five research priority areas at all. This shows that the importance of these research areas dealing directly with society and its organisation is considerably lower than the research fields dealing with natural sciences and related technological fields.

Comparing these issues to the EU-CELAC common research area priorities allows some insight into the alignment of the national, bi-lateral funding priorities with their-bi-regional framework elaborate as part of the CRA and the JIRI initiative. The JIRI defined Renewable Energy, Bio-economy, Health and Climate Action and Sustainable urbanisation as thematic priorities for the bi-regional cooperation. While these areas are not found as such specific dimensions in the WoS classification, there at least some instances that show that these issues are also of relevance in the ongoing funding agency work. Arguably, the data from WoS does not reflect a specific focus of the funding agencies on one of these topics, although certain fields (Environmental sciences, Biochemistry, Biotechnology) indicate contributions to the bi-regional priority areas. However, the topics defined in the JIRI have to be seen as cross-cutting issues that need inputs from different research areas mentioned in WoS.

[21] See: https://images.webofknowledge.com/images/help/WOS/hp_research_areas_easca.html

Table 4: Top research areas of EU-LAC co-publications in Web of Science.

#	Region	Funding Agencies (TOP 50)	Countries/Territories (Top 10)	Top 5 Research Areas (%)
1	LAC	CNPQ Conselho Nacional de Desenvolvimento Científico e Tecnológico www.cnpq.br	FRANCE	PHYSIC 48.471% ASTRONOMY ASTROPHYSICS 20.751% CHEMISTRY 6.814% MATERIALS SCIENCE 5.652% ENGINEERING 5.594%
			GERMANY	PHYSICS 52.962% ASTRONOMY ASTROPHYSICS 21.927% CHEMISTRY 6.726% MATERIALS SCIENCE 5.650% SCIENCE TECHNOLOGY OTHER TOPICS 3.879%
			SPAIN	PHYSICS 49.522% ASTRONOMY ASTROPHYSICS 20.802% CHEMISTRY 9.807& MATHEMATICS 6.028% MATERIALS SCIENCE 4.861%
			ITALY	PHYSICS 60.224% ASTRONOMY ASTROPHYSICS 24.392% CHEMISTRY 6.126% MATERIALS SCIENCE 4.056% MATHEMATICS 3.776%
			PORTUGAL	PHYSICS 49.872

				ASTRONOMY ASTROPHYSICS 18.217 CHEMISTRY 10.359 ENGINEERING 6.639 MATERIALS SCIENCE 6.222
2	LAC	CAPES Coordenação de Aperfeicoamento de Pessoal de Nível Superior www.capes.gov.br	FRANCE	PHYSICS 39.252 ASTRONOMY ASTROPHYSICS 16.155 CHEMISTRY 10.280 MATERIALS SCIENCE 7.911 ENGINEERING 7.009
			SPAIN	PHYSICS 41.629 ASTRONOMY ASTROPHYSICS 15.830 CHEMISTRY 12.861 MATERIALS SCIENCE 6.012 ENGINEERING 5.441
			GERMANY	PHYSICS 47.210 ASTRONOMY ASTROPHYSICS 18.766 CHEMISTRY 8.326 MATERIALS SCIENCE 6.382 ENGINEERING 4.649
			PORTUGAL	PHYSICS 35.100 CHEMISTRY 14.218 ASTRONOMY ASTROPHYSICS 13.116 ENGINEERING 10.546 MATERIALS SCIENCE 8.972
			ITALY	PHYSICS 57.357

				ASTRONOMY ASTROPHYSICS 22.876 CHEMISTRY 7.773 MATERIALS SCIENCE 3.720 BIOCHEMISTRY MOLECULAR BIOLOGY 3.387
3	LAC	FAPESP Fundação de Amparo à Pesquisa do Estado de São Paulo www.fapesp.br	FRANCE	PHYSICS 71.808 ASTRONOMY ASTROPHYSICS 31.260 CHEMISTRY 5.017 MATERIALS SCIENCE 4.519 MATHEMATICS 3.358
			GERMANY	PHYSICS 72.473 ASTRONOMY ASTROPHYSICS 30.238 CHEMISTRY 5.053 MATERIALS SCIENCE 4.026 INSTRUMENTS INSTRUMENTATION 2.958
			SPAIN	PHYSICS 70.043 ASTRONOMY ASTROPHYSICS 29.957 CHEMISTRY 6.767 MATHEMATICS 4.526 MATERIALS SCIENCE 3.750
			ITALY	PHYSICS 77.398 ASTRONOMY ASTROPHYSICS 31.623 CHEMISTRY 3.836 INSTRUMENTS INSTRUMENTATION 3.162 MATHEMATICS 2.488
			ENGLAND	PHYSICS 87.278

				ASTRONOMY ASTROPHYSICS 37.278 INSTRUMENTS INSTRUMENTATION 3.722 CHEMISTRY 1.222 BIOCHEMISTRY MOLECULAR BIOLOGY 1.056
4	LAC	CONACYT Consejo Nacional de Ciencia y Tecnología (Mexico, Bolivia, Paraguay) www.conacyt.gob.mx www.conacyt.gov.bo http://www.conacyt.gov.py/	SPAIN	PHYSICS 36.701 ASTRONOMY ASTROPHYSICS 18.740 CHEMISTRY 15.279 MATERIALS SCIENCE 7.827 ENGINEERING 7.141
			FRANCE	PHYSICS 50.859 ASTRONOMY ASTROPHYSICS 23.613 CHEMISTRY 10.751 MATERIALS SCIENCE 5.891 ENGINEERING 5.302
			GERMANY	PHYSICS 59.690 ASTRONOMY ASTROPHYSICS 35.991 CHEMISTRY 5.592 MATERIALS SCIENCE 4.097 INSTRUMENTS INSTRUMENTATION 2.769
			ITALY	PHYSICS 63.636 ASTRONOMY ASTROPHYSICS 31.304 CHEMISTRY 5.455 MATHEMATICS 4.348 INSTRUMENTS INSTRUMENTATION 3.478
			ENGLAND	PHYSICS 77.329

				ASTRONOMY ASTROPHYSICS 40.422 INSTRUMENTS INSTRUMENTATION 4.394 ENVIRONMENTAL SCIENCES ECOLOGY 2.636 SCIENCE TECHNOLOGY OTHER TOPICS 1.933
5	LAC	CONICET Consejo Nacional de Investigaciones Científicas y Técnicas www.conicet.gov.ar	SPAIN	CHEMISTRY 23.157 PHYSICS 21.816 MATERIALS SCIENCE 11.639 ASTRONOMY ASTROPHYSICS 9.628 MATHEMATICS 7.556
			GERMANY	PHYSICS 32.566 CHEMISTRY 21.239 ASTRONOMY ASTROPHYSICS 15.841 MATERIALS SCIENCE 11.239 SCIENCE TECHNOLOGY OTHER TOPICS 7.788
			FRANCE	PHYSICS 37.927 CHEMISTRY 16.869 ASTRONOMY ASTROPHYSICS 16.538 MATERIALS SCIENCE 9.702 BIOCHEMISTRY MOLECULAR BIOLOGY 6.174
			ITALY	PHYSICS 24.839 CHEMISTRY 19.272 ASTRONOMY ASTROPHYSICS 14.561 BIOCHEMISTRY MOLECULAR BIOLOGY 9.850 MATERIALS SCIENCE 7.066
			ENGLAND	PHYSICS 53.357

				ASTRONOMY ASTROPHYSICS 40.283 SCIENCE TECHNOLOGY OTHER TOPICS 6.360 CHEMISTRY 5.300 GEOLOGY 4.594
6	LAC	FONDECYT Fondo Nacional de Desarrollo Científico y Tecnológico www.conicyt.cl/fondecyt	SPAIN	CHEMISTRY 20.291 ASTRONOMY ASTROPHYSICS 18.618 PHYSICS 14.182 MATHEMATICS 10.545 ENVIRONMENTAL SCIENCES ECOLOGY 6.473
			GERMANY	ASTRONOMY ASTROPHYSICS 39.698 PHYSICS 19.716 CHEMISTRY 8.437 MATERIALS SCIENCE 4.973 MATHEMATICS 4.885
			FRANCE	ASTRONOMY ASTROPHYSICS 24.004 MATHEMATICS 17.029 PHYSICS 14.764 CHEMISTRY 8.062 ENVIRONMENTAL SCIENCES ECOLOGY 4.348
			ITALY	ASTRONOMY ASTROPHYSICS 49.897 PHYSICS 15.464 MATHEMATICS 9.897 CHEMISTRY 5.361 ENVIRONMENTAL SCIENCES ECOLOGY 4.124

			ENGLAND	ASTRONOMY ASTROPHYSICS 70.455 PHYSICS 5.785 SCIENCE TECHNOLOGY OTHER TOPICS 3.099 ENVIRONMENTAL SCIENCES ECOLOGY 2.893 COMPUTER SCIENCE 2.273
7	LAC	ANPCYT AGENCIA NACIONAL DE PROMOCIÓN CIENTÍFICA Y TECNOLÓGICA www.agencia.mincyt.gob.ar/	SPAIN	PHYSICS 53.307 ASTRONOMY ASTROPHYSICS 20.641 CHEMISTRY 15.498 MATERIALS SCIENCE 7.014 BIOCHEMISTRY MOLECULAR BIOLOGY 4.676
			GERMANY	PHYSICS 63.962 ASTRONOMY ASTROPHYSICS 24.338 CHEMISTRY 12.468 MATERIALS SCIENCE 5.722 SCIENCE TECHNOLOGY OTHER TOPICS 4.953
			FRANCE	PHYSICS 70.074 ASTRONOMY ASTROPHYSICS 25.414 CHEMISTRY 6.262 MATERIALS SCIENCE 5.064 BIOCHEMISTRY MOLECULAR BIOLOGY 3.039
			ITALY	PHYSICS 79.138 ASTRONOMY ASTROPHYSICS 30.839 CHEMISTRY 4.535

				MATERIALS SCIENCE 2.834 SCIENCE TECHNOLOGY OTHER TOPICS 2.608
			ENGLAND	PHYSICS 88.076 ASTRONOMY ASTROPHYSICS 35.366 INSTRUMENTS INSTRUMENTATION 2.575 SCIENCE TECHNOLOGY OTHER TOPICS 1.897 CHEMISTRY 1.220
8	LAC	FAPERJ Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro www.faperj.br/	FRANCE	PHYSICS 74.902 ASTRONOMY ASTROPHYSICS 33.290 MATHEMATICS 4.161 INSTRUMENTS INSTRUMENTATION 3.121 COMPUTER SCIENCE 2.406
			GERMANY	PHYSICS 82.615 ASTRONOMY ASTROPHYSICS 34.770 INSTRUMENTS INSTRUMENTATION 3.652 MATERIALS SCIENCE 2.045 MATHEMATICS 1.607
			SPAIN	PHYSICS 83.347 ASTRONOMY ASTROPHYSICS 35.837 INSTRUMENTS INSTRUMENTATION 3.755 CHEMISTRY 1.878 SCIENCE TECHNOLOGY OTHER TOPICS 1.714
			ENGLAND	PHYSICS 91.204 ASTRONOMY ASTROPHYSICS 39.283 INSTRUMENTS INSTRUMENTATION 4.184

				SCIENCE TECHNOLOGY OTHER TOPICS 0.939 CHEMISTRY 0.598
			ITALY	PHYSICS 82.019 ASTRONOMY ASTROPHYSICS 31.089 INSTRUMENTS INSTRUMENTATION 3.632 CHEMISTRY 2.126 MATHEMATICS 1.417
9	LAC	CONICYT Comisión Nacional de Investigación Científica y Tecnológica www.conicyt.cl/ + *ECOS-CONICYT* *Programa de Cooperación Científica* www.conicyt.cl/pci/tag/ecos-conicyt/	FRANCE	PHYSICS 56.494 ASTRONOMY ASTROPHYSICS 26.773 MATHEMATICS 7.570 CHEMISTRY 7.012 ENGINEERING 3.187
			SPAIN	PHYSICS 56.003 ASTRONOMY ASTROPHYSICS 25.786 CHEMISTRY 11.281 ENVIRONMENTAL SCIENCES ECOLOGY 4.190 ENGINEERING 3.546
			GERMANY	PHYSICS 66.080 ASTRONOMY ASTROPHYSICS 35.496 CHEMISTRY 4.634 MATERIALS SCIENCE 2.410 ENVIRONMENTAL SCIENCES ECOLOGY 2.132
			ENGLAND	PHYSICS 77.033 ASTRONOMY ASTROPHYSICS 42.943 INSTRUMENTS INSTRUMENTATION 1.675

				ENVIRONMENTAL SCIENCES ECOLOGY 0.957 ENGINEERING 0.837
			ITALY	PHYSICS 78.960 ASTRONOMY ASTROPHYSICS 40.629 INSTRUMENTS INSTRUMENTATION 1.693 MATHEMATICS 1.088 SCIENCE TECHNOLOGY OTHER TOPICS 1.088
10	LAC	COLCIENCIAS COLOMBIA Departamento Administrativo de Ciencia, Tecnología e Innovación www.colciencias.gov.co/	SPAIN	PHYSICS 74.941 ASTRONOMY ASTROPHYSICS 31.102 CHEMISTRY 9.360 CRYSTALLOGRAPHY 4.443 ENGINEERING 3.258
			FRANCE	PHYSICS 89.726 ASTRONOMY ASTROPHYSICS 37.959 INSTRUMENTS INSTRUMENTATION 3.135 CHEMISTRY 2.001 ENGINEERING 1.468
			GERMANY	PHYSICS 90.267 ASTRONOMY ASTROPHYSICS 38.000 INSTRUMENTS INSTRUMENTATION 3.133 CHEMISTRY 1.200 CRYSTALLOGRAPHY 0.933
			ENGLAND	PHYSICS 94.296 ASTRONOMY ASTROPHYSICS 39.859

				INSTRUMENTS INSTRUMENTATION 3.380 CHEMISTRY 1.056 CRYSTALLOGRAPHY 0.704
			CZECH REPUBLIC	PHYSICS 97.339 ASTRONOMY ASTROPHYSICS 41.611 INSTRUMENTS INSTRUMENTATION 2.587 NUCLEAR SCIENCE TECHNOLOGY 0.517 PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH 0.222

Source: WoS, own elaboration.

Besides the most important funding agencies from the bigger LAC countries, it also makes sense to have a look at so-called minority flows of smaller LAC countries and their cooperation patterns with EU countries. Here we see that the picture is more diverse than the collaboration patterns with the bigger LAC countries. Contrary to the above analysis the minority flows also include, even though on a small basis, issues of social sciences and arts and humanities. Nevertheless, the Physical sciences together with the areas of Technology and Life Sciences remain the predominant ones.

Analyzing the data more in detail also shows that smaller LAC countries tend to have more intense cooperation with one or two specific countries and institutions, deviating from the pattern of the bigger LAC countries with mostly cooperate with same EU countries (Spain, Portugal, France, Germany, England). Other than the table above, the minority flows (see Table 5Table 9) also shows the specific institution that these countries are collaborating with. For example, the Caribbean countries Jamaica and Trinidad and Tobago are very much connected to the UK and other English speaking countries, whereas countries such as Bolivia and Ecuador also have institutions from Sweden and India in their top collaboration partners. However, the role of European cooperation partners remains quite dominant in the data retrieved from WoS, showing that there the efforts for establishing a CRA are spread out on fruitful ground.

Nevertheless, these funding flows in smaller countries also illustrate that there is still potential for targeting the cooperation even further regarding to the specific peculiarities of the different countries, including the natural surroundings and the challenges derived from them. For example, climate change is an issue, where especially Caribbean states can contribute enormously due to their first hand expertise on marine biology and related fields. In general, the cooperation on specific scientific issues should be in line with societal challenges defined on a local level as well as on a global level (SDGs). In order to determine how to best contribute to a solutions oriented scientific cooperation, it is a pre-condition that LAC (and EU) countries are aware of their strengths and weaknesses in the scientific sector and to communicate this clearly. Looking at the actual funding flows hereby is only a first step to determine these strengths and weaknesses.

Table 5: Thematic minority funding flows of smaller LAC countries.

Country	Top 5 Funding Agencies	EULAC records	Top 5 Research Areas (%)
ECUADOR Total documents (co-pubs with EU): 4,232 Funded documents (co-pubs with EU): 2,751	Science and Technology Facilities Council (STFC)/UK	432	PHYSICS 99.537 ASTRONOMY ASTROPHYSICS 55.787 INSTRUMENTS INSTRUMENTATION 2.083 NUCLEAR SCIENCE TECHNOLOGY 1.620
	Science Foundation Ireland (SFI)/IR	358	PHYSICS 99.162 ASTRONOMY ASTROPHYSICS 53.073 INSTRUMENTS INSTRUMENTATION 1.676 NUCLEAR SCIENCE TECHNOLOGY 1.117 EVOLUTIONARY BIOLOGY 0.279
	COLCIENCIAS COLOMBIA/CO	356	PHYSICS 97.753 ASTRONOMY ASTROPHYSICS 51.966 INSTRUMENTS INSTRUMENTATION 2.247 NUCLEAR SCIENCE TECHNOLOGY 1.685 SCIENCE TECHNOLOGY OTHER TOPICS 0.843
	DST INDIA/IN	351	PHYSICS 99.430 ASTRONOMY ASTROPHYSICS 52.137 INSTRUMENTS INSTRUMENTATION 1.994 NUCLEAR SCIENCE TECHNOLOGY 1.425

	CONACYT/MX,BO,PY	347	PHYSICS 95.965 ASTRONOMY ASTROPHYSICS 49.856 INSTRUMENTS INSTRUMENTATION 2.305 NUCLEAR SCIENCE TECHNOLOGY 1.729 PLANT SCIENCES 0.865
BOLIVIA Total documents: 1,675 Funded documents: 959	SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY SIDA/SE	92	CHEMISTRY 22.826 ENGINEERING 21.739 BIOTECHNOLOGY APPLIED MICROBIOLOGY 15.217 ENERGY FUELS 15.217 FOOD SCIENCE TECHNOLOGY 13.043
	European Union - European Commission/EU	70	ENVIRONMENTAL SCIENCES ECOLOGY 38.571 PLANT SCIENCES 14.286 GEOLOGY 12.857 SCIENCE TECHNOLOGY OTHER TOPICS 12.857 BIODIVERSITY CONSERVATION 7.143
	US NATIONAL SCIENCE FOUNDATION (NSF)/US	63	ENVIRONMENTAL SCIENCES ECOLOGY 33.333 SCIENCE TECHNOLOGY OTHER TOPICS 23.810 PHYSICAL GEOGRAPHY 12.698 PLANT SCIENCES 12.698 ANTHROPOLOGY 9.524

	NATURAL ENVIRONMENT RESEARCH COUNCIL (NERC)/UK	45	ENVIRONMENTAL SCIENCES ECOLOGY 55.556 GEOLOGY 26.667 SCIENCE TECHNOLOGY OTHER TOPICS 20.000 BIODIVERSITY CONSERVATION 15.556 METEOROLOGY ATMOSPHERIC SCIENCES 15.556
	Institución Catalana de Investigación y Estudios Avanzados (ICREA)/ES	34	ANTHROPOLOGY 41.176 BIOMEDICAL SOCIAL SCIENCES 23.529 ENVIRONMENTAL SCIENCES ECOLOGY 23.529 PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH 20.588 BUSINESS ECONOMICS 17.647
COSTA RICA Total documents: 2,364 Funded documents: 1,435	UNIVERSITY OF COSTA RICA/CR	219	BIOCHEMISTRY MOLECULAR BIOLOGY 14.612 PHARMACOLOGY PHARMACY 10.959 PLANT SCIENCES 10.046 TOXICOLOGY 9.132 CHEMISTRY 8.676
	European Union - European Commission/EU	81	ENVIRONMENTAL SCIENCES ECOLOGY 20.988 MICROBIOLOGY 8.642 FOOD SCIENCE TECHNOLOGY 7.407 FORESTRY 7.407 PUBLIC ENVIRONMENTAL OCCUPATIONAL HEALTH 7.407

	US NATIONAL SCIENCE FOUNDATION (NSF)/US	77	ENVIRONMENTAL SCIENCES ECOLOGY 25.974 SCIENCE TECHNOLOGY OTHER TOPICS 14.286 PLANT SCIENCES 11.688 METEOROLOGY ATMOSPHERIC SCIENCES 9.091 GEOCHEMISTRY GEOPHYSICS 7.792
	GERMAN ACADEMIC EXCHANGE SERVICE DAAD/DE	55	ENVIRONMENTAL SCIENCES ECOLOGY 16.364 FOOD SCIENCE TECHNOLOGY 12.727 PLANT SCIENCES 12.727 AGRICULTURE 9.091 CHEMISTRY 9.091
	NATURAL ENVIRONMENT RESEARCH COUNCIL (NERC)/UK	35	ENVIRONMENTAL SCIENCES ECOLOGY 34.286 AGRICULTURE 14.286 BIODIVERSITY CONSERVATION 14.286 METEOROLOGY ATMOSPHERIC SCIENCES 14.286 EVOLUTIONARY BIOLOGY 11.429
PANAMA Total documents: 1,493	SMITHSONIAN TROPICAL RESEARCH INSTITUTE (STRI) - SMITHSONIAN INSTITUTION/US	204	ENVIRONMENTAL SCIENCES ECOLOGY 37.745 SCIENCE TECHNOLOGY OTHER TOPICS 17.157 EVOLUTIONARY BIOLOGY 14.706 ZOOLOGY 14.216 PLANT SCIENCES 10.294

Funded documents: 1,030	US NATIONAL SCIENCE FOUNDATION (NSF)/US	200	ENVIRONMENTAL SCIENCES ECOLOGY 41.000 SCIENCE TECHNOLOGY OTHER TOPICS 25.500 EVOLUTIONARY BIOLOGY 14.000 ZOOLOGY 13.500 LIFE SCIENCES BIOMEDICINE OTHER TOPICS 9.500
	GERMAN RESEARCH FOUNDATION DFG/DE	119	ENVIRONMENTAL SCIENCES ECOLOGY 31.933 SCIENCE TECHNOLOGY OTHER TOPICS 21.008 PLANT SCIENCES 13.445 GEOLOGY 10.084 EVOLUTIONARY BIOLOGY 8.403
	GERMAN ACADEMIC EXCHANGE SERVICE DAAD/DE	54	ENVIRONMENTAL SCIENCES ECOLOGY 35.185 SCIENCE TECHNOLOGY OTHER TOPICS 12.963 BIODIVERSITY CONSERVATION 11.111 GEOLOGY 11.111 MYCOLOGY 11.111
	UK NATURAL ENVIRONMENT RESEARCH COUNCIL (NERC)/UK	50	ENVIRONMENTAL SCIENCES ECOLOGY 42.000 SCIENCE TECHNOLOGY OTHER TOPICS 38.000 BIODIVERSITY CONSERVATION 12.000 EVOLUTIONARY BIOLOGY 12.000 PLANT SCIENCES 12.000

CUBA Total documents: 4,754 Funded documents: 2,489	CONSELHO NACIONAL DE DESENVOLVIMENTO CIENTIFICO E TECNOLOGICO CNPQ/BR	230	PHYSICS 77.826 ASTRONOMY ASTROPHYSICS 25.217 CHEMISTRY 10.870 MATERIALS SCIENCE 6.522 BIOCHEMISTRY MOLECULAR BIOLOGY 2.609
	UNITED KINGDOM SCIENCE AND TECHNOLOGY FACILITIES COUNCIL STFC/UK	182	PHYSICS 96.154 ASTRONOMY ASTROPHYSICS 36.264 INSTRUMENTS INSTRUMENTATION 2.747 NUCLEAR SCIENCE TECHNOLOGY 0.549
	NATIONAL NATURAL SCIENCE FOUNDATION OF CHINA NSFC/CN	166	PHYSICS 98.193 ASTRONOMY ASTROPHYSICS 35.542 INSTRUMENTS INSTRUMENTATION 1.205 BIOPHYSICS 0.602
	FINANCIADORA DE ESTUDOS E PROJETOS FINEP/BR	165	PHYSICS 98.182 ASTRONOMY ASTROPHYSICS 35.758 INSTRUMENTS INSTRUMENTATION 1.212 MICROBIOLOGY 0.606
	CARLSBERG FOUNDATION DENMARK/DK	163	PHYSICS 95.706 ASTRONOMY ASTROPHYSICS 34.356 BIOPHYSICS 1.227 INSTRUMENTS INSTRUMENTATION 1.227 BIOCHEMISTRY MOLECULAR BIOLOGY 0.613
JAMAICA	MEDICAL RESEARCH COUNCIL UK/UK	18	GENETICS HEREDITY 27.778

Total documents: 287 Funded documents: 143			SCIENCE TECHNOLOGY OTHER TOPICS 27.778 GENERAL INTERNAL MEDICINE 22.222 HEMATOLOGY 11.111 OBSTETRICS GYNECOLOGY 11.111
	WELLCOME TRUST&/UK	17	GENERAL INTERNAL MEDICINE 35.294 GENETICS HEREDITY 35.294 SCIENCE TECHNOLOGY OTHER TOPICS 23.529 LEGAL MEDICINE 5.882 LIFE SCIENCES BIOMEDICINE OTHER TOPICS 5.882
	BRITISH HEART FOUNDATION/UK	12	GENETICS HEREDITY 50.000 SCIENCE TECHNOLOGY OTHER TOPICS 41.667 CARDIOVASCULAR SYSTEM CARDIOLOGY 8.333
	NATIONAL INSTITUTE FOR HEALTH RESEARCH (NIHR)/UK	11	GENETICS HEREDITY 36.364 SCIENCE TECHNOLOGY OTHER TOPICS 36.364 EDUCATION EDUCATIONAL RESEARCH 9.091 NUTRITION DIETETICS 9.091 OBSTETRICS GYNECOLOGY 9.091
	CHIEF SCIENTIST OFFICE OF THE SCOTTISH GOVERNMENT/UK	9	GENETICS HEREDITY 55.556 SCIENCE TECHNOLOGY OTHER TOPICS 44.444

TRINIDAD & TOBAGO Total documents: 325 Funded documents: 170	UK NATURAL ENVIRONMENT RESEARCH COUNCIL (NERC)/UK	21	GEOCHEMISTRY GEOPHYSICS 52.381 ENVIRONMENTAL SCIENCES ECOLOGY 14.286 GEOLOGY 14.286 AGRICULTURE 9.524 EVOLUTIONARY BIOLOGY 9.524
	US NATIONAL SCIENCE FOUNDATION (NSF)/US	15	EVOLUTIONARY BIOLOGY 26.667 GEOCHEMISTRY GEOPHYSICS 26.667 ENVIRONMENTAL SCIENCES ECOLOGY 20.000 SCIENCE TECHNOLOGY OTHER TOPICS 20.000 BIOCHEMISTRY MOLECULAR BIOLOGY 13.333
	European Union - European Commission/EU	11	GEOLOGY 27.273 PSYCHIATRY 18.182 BIOPHYSICS 9.091 CHEMISTRY 9.091 ENGINEERING 9.091
	UK MEDICAL RESEARCH COUNCIL MRC/UK	7	PSYCHIATRY 42.857 INFECTIOUS DISEASES 28.571 GENETICS HEREDITY 14.286 HEMATOLOGY1 14.286 IMMUNOLOGY 14.286

	UK ENGINEERING AND PHYSICAL SCIENCES RESEARCH COUNCIL (EPSRC)/UK	7	CHEMISTRY 42.857 ENGINEERING 28.571 EMERGENCY MEDICINE 14.286 GEOCHEMISTRY GEOPHYSICS 14.286 SURGERY 14.286

Source: WoS, own elaboration.

Considering the patterns described above it becomes clear that EU MS countries are important collaboration partners for LAC funding agencies, leaving the United States, China and Russia behind (see Annex I). Notably, the presence of non EU countries, for example the US and India, is more prominent in the case of smaller LAC countries with less developed or less resourceful science and innovation funding systems. This shows that the ties between the two regions have a strong basis and that national programmes, at least regarding LAC countries with a well-established research system, are actively engaging with European partners.

The agencies that are funding bi-regional research papers in LAC are mostly national science foundations, except in the case of Brazil, where three science foundations on state level also made the list (Minas Gerais, São Paulo and Rio de Janeiro). While Brazil is a comparatively well-established player in the scientific field and profits from being the biggest economy in the region, the high activity of some other countries in funding bi-regional collaboration is notable. For example, Chile has two institutions in the Top-10 funding agencies and shows that its collaboration interest with EU MS is quite high. Additionally, Argentina is quite active in funding collaborative research papers as it has two funding institutions represented in the ten most active Latin American ones, namely the National Scientific and Technical Research Council and the National Agency for Science and Technology promotion, the operative agency for science promotion of the Ministry of Science and Technology (MinCyT).

Looking at the case of the Caribbean, the most active funding agency in international collaboration is the Conselho Nacional De Desenvolvimento Cientifico E Tecnologico (CNPQ) from Brazil, whose funded documents amount to 230 of the 6502 produced by the Caribbean region in the examined period (2005-2017). It is followed by the National Natural Science Foundation of China (NSFC), which funded 166 documents; the FINEP from Brazil, with 165 documents; the Carlsberg Foundation from Denmark, with 163 documents; and the Academy of Finland, with 150 documents. No Caribbean funding agency can be found in the list of the 50 most active institutions. However, looking closer at the institutions actually situated in the Caribbean, the analysis confirms the prominent role of Brazilian agencies in funding international collaboration, yet it also shows that the region has established important collaboration networks with Northern European countries and especially the UK. Indeed, agencies from Northern Europe that funded co-publications with the Caribbean countries include not only the Carlsberg Foundation from Denmark and the Academy of Finland, but also the Danish Natural Science Research Council, the Danish National Research Foundation, the Research Council of Norway (NFR), the Helsinki Institute of Physics, the Swedish Research Council, and many others.

Summing these results up, it can be concluded that there are already very strong collaboration ties between certain well-established funding agencies, contributing to comparatively high numbers of co-

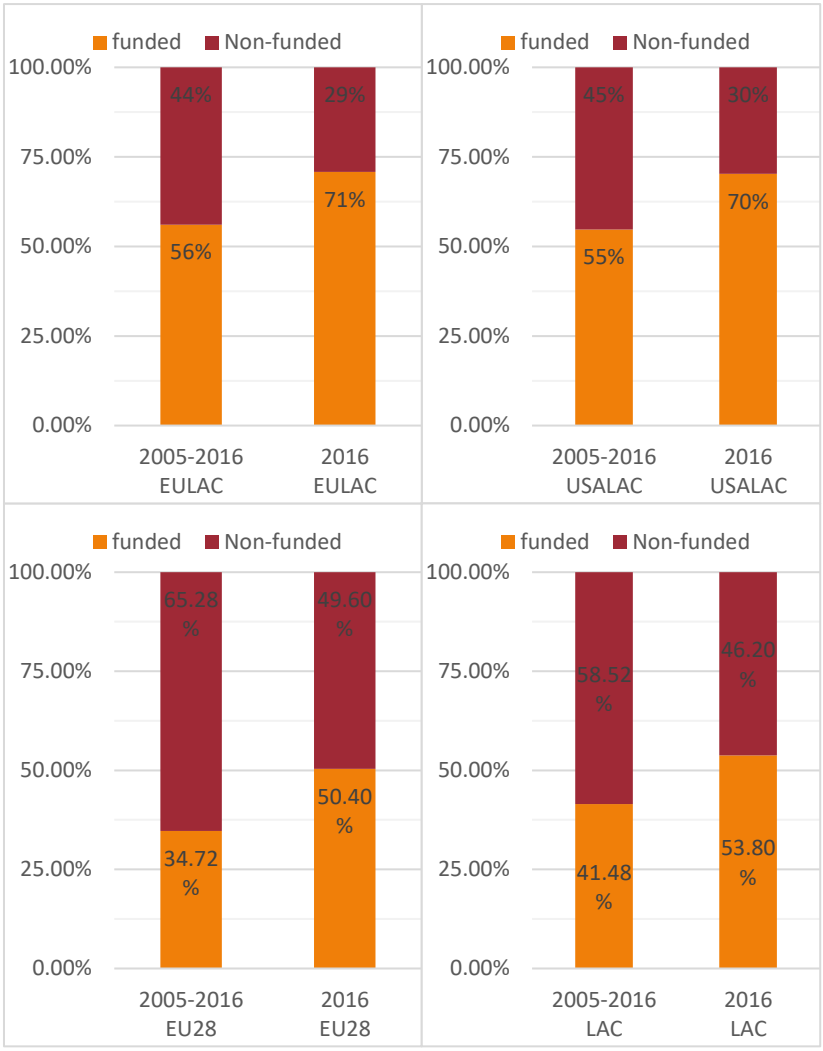
publications between certain LAC and EU countries. Especially the connections between Germany-Brazil, Portugal-Brazil, Spain-Argentina, Spain-Chile and Spain-Mexico are strong and recognised. In case of the Caribbean, the dominant cooperation partner is the UK. The role of the European Union as a funding agency must be highlighted, in particular in the case of smaller LAC countries. While the MS mostly have a stronger focus on one or two countries in Latin America, most of the time involving either Brazil or Argentina, the EU cooperates in a more diversified way, and has established strong ties with Chile, Colombia, Mexico, Bolivia and Costa Rica. Including and collaborating with all the LAC countries is a clear priority of the Common Research Area and the data point to the fact that this is working. However, there is still room for improvement, as many LAC countries are still underrepresented in these collaboration patterns. Although in some cases this is a natural trend resulting from the size of the researcher communities in smaller countries, the added-value in including these countries might come from their contribution to very specific knowledge systems and not necessarily from their contribution in terms of funding value.

6.3 COMPARATIVE ANALYSIS OF PUBLIC FUNDING

While the results presented above give an insight into most important institutions involved in bi-regional collaboration as well as in key thematic priorities of majority and minority flows, the results say nothing in terms of general importance of public financing of collaboration. Therefore, in another step, the overall numbers of publicly funded co-publications between LAC and the EU were compared to non-publicly funded papers as well as to the ratio of these in the regions themselves. Finally, to have a yardstick in terms of collaboration, this ratio was also calculated for co-publications between LAC and the United States of America.

The results, visualised in Figure 7, show that the share of publicly funded co-publications between EU and LAC is considerably higher than in the regions themselves, both from a historical (considering the time span 2005-2016) and a current perspective (considering only the year 2016). Focusing only on the year 2016, the rate of publicly funded EU-LAC co-publications is 71% (22,318 co-publications in total) compared to 56% publicly funded papers in a historical perspective (157,566 co-publications in total). These numbers are considerably higher than the numbers for publicly funded publications in the EU (2005--2016: 34%, 2016: 50%) and in LAC (2005--2016: 42%, 2016: 54%). In conclusion, the support of funding agencies is even more important in bi-regional collaboration than in intra-regional collaboration. Stressing this fact is crucial in understanding the key role of public support for scientific cooperation, but also shows that there is a lot of room to grow in terms of private funding. Comparing the results for EU-LAC publications to co-publications between LAC and the US confirms the results for EU-LAC as almost the same numbers are achieved, although, in terms of absolute numbers, the results for LAC-US are slightly lower (2005--2016: 131,315, 2016: 16,745). This once again strengthens the finding that EU-LAC cooperation in the scientific area already has quite a significant standard, at least from taking into consideration only the results of the WoS database.

Figure 7: Rate of funded publications, 2005-2016, 2016, LAC, EU28, USA, EULAC and USALAC.



Source: WoS, own elaboration.

Overall, the analysis of publicly funded co-publications in the WoS database highlighted some key institutions in LAC and the EU, which are involved in academic collaboration. Using this data might help to further narrow down best practice approaches towards bi-regional collaboration and mobility. Moreover, it indicated that EU strategies in terms of bi-regional scientific cooperation are already having an impact on collaboration patterns and that these collaboration patterns need to be strengthened in a targeted way, taking into account regional strengths and weaknesses in order to achieve a Common Research Area. With the EU funded framework programmes, an instrument exists that allows LAC institutions to engage with EU (and beyond) partners to generate new knowledge and to contribute to flourishing research and innovation systems in both regions. While the Framework programmes follow priorities set in the EU, they include specific thematic priority areas were LAC participation is encouraged, which follow the priorities set in the JIRI process (e.g. sustainable urbanisation, health, energy, etc.). The analysis in the following chapter dives into a in depth analysis of these cooperation patterns (see chapter 7).

7 BI-REGIONAL MOBILITY PROGRAMMES IN PLACE – AN INSIGHT IN KEY INSTRUMENTS

The analysis in this section deals with the two main research and higher education funding programmes set in place by the EU and open for international cooperation. First, the EU framework programme 8 (H2020, see chapter 7.1) is investigated regarding the cooperation patterns between EU and CELAC countries. Second, Erasmus+ and its respective sub-sections are in the spotlight (see chapter 7.2). Further, a short overview on participation of LAC countries in ERC grants is provided (see chapter 7.3).

Methodologically the analysis is structured into two parts: geographic and thematic clustering (see chapter 5), identifying both key institutions in the respective programmes and countries as well as thematic priorities. After the initial identification of cooperation clusters (no cooperation, low cooperation, medium cooperation, high cooperation, very high cooperation), the thematic and geographic clustering subsequently selects countries representative for these different cooperation intensities as well as geographic distribution in order to give a more detailed insight into the situation across LAC and the EU, showing both majority and minority participation links. Due to the relatively small number of ERC project with LAC participation, these projects do not follow the same approach and only a general overview is provided.

7.1 FRAMEWORK PROGRAMME 8 – H2020 (2014-2020)

The biggest EU funding programme for research are the Framework Programmes for Research and Innovation. The last Framework Programme, **FP7** lasted from 2007 to 2013 and was the first instrument in which international (third-country) cooperation was officially welcomed in an attempt to internationalise the European science scene. A dedicated activity was specifically targeting "International Cooperation" strengthening the ties of the EU to different world region including LAC. In total, 747 LAC institutions participated in FP7 projects, receiving more than 100 Million Euro of EU support (see EC 2015). While cooperation took place in different areas of FP7, mobility was organised mainly through the European Research Council (ERC, see below) and Marie Skłodowska-Curie Actions (MSCA) where more than 150 different organisations participated around 400 times in more than 200 different projects (European Commission 2017, p. 7).

At the beginning of 2014, FP7 was replaced by the new **H2020** programme. While some things changed, as for example the nature of "international cooperation" actions, the main programme in terms of mobility remained MSCA. Compared to FP7, a clear increase and diversification, but also a shift in LAC participation is notable, although not in terms of LAC institutions as hosting organisations. Until June 2017 three projects were financed by EC under H2020 in area a), which means partners from CELAC were directly involved in the project or coordinating the project (Argentina 2, Chile 1).

The analysis was based on three datasets: The first dataset, "CELAC", includes projects with the participants from CELAC in the role of "partner" or "third party". Nevertheless, two projects whose coordinating partner was from CELAC (Chile and Uruguay) were included in the dataset. These two projects, although exceptions to the composition of the dataset were left and considered in the subsequent analysis. One of the two other datasets "ERC-CELAC" only includes projects that were

coordinated by an institution from CELAC and where the leading researcher was also from CELAC. The last dataset, “MSCA-CELAC” includes researchers from CELAC who have participated or are currently participating in MSCA grants.

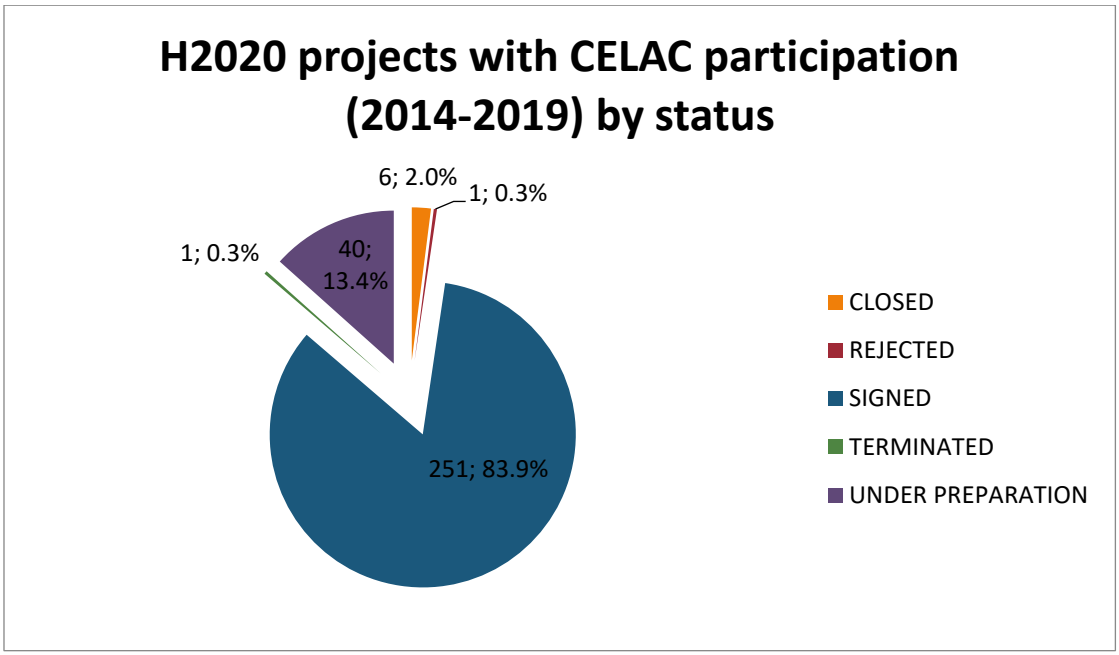
Additionally, EU-CELAC participation in the three Erasmus+ key actions was analysed. Further to this, a focus was placed on EU-CELAC projects funded under the field “capacity building in the field of higher education”.

7.1.1 CELAC in Horizon 2020

7.1.1.1 Geographic clustering

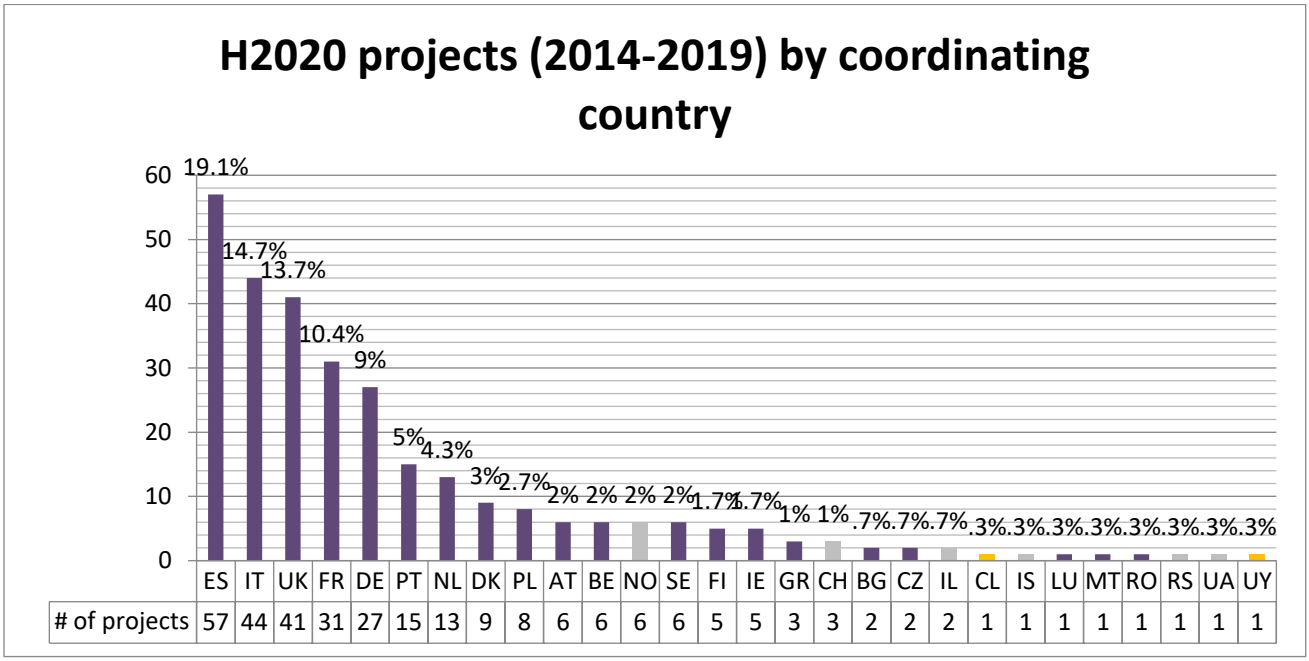
From December 2014 to May 2019, 299 Horizon 2020 projects with institutions from CELAC participating as “partner” or “third parties” (with an exception of two projects led CELAC institutions) had been applied for and were at different stages. 251 of the projects or 83.9% of the contracts had been signed and thus the projects were in the implementation stage. 40 projects (13.4%) were under preparation, 6 projects (2%) completed and one project each (0.3%), "rejected" or "terminated".

Figure 8: Horizon 2020 (2014-2019) projects with CELAC participation by stage of implementation



Of the 297 ongoing projects, only 2 (0.67%) were coordinated by a project partner from CELAC (Chile and Uruguay), 283 (94.65%) were coordinated by EU Member states and 14 (4.68%) were coordinated by third countries (Iceland n=1, Israel n=2, Norway n=6, Serbia n=1, Switzerland n=3 and Ukraine n=1). Organisations from Spain coordinated the most projects (n=57 or 19,1%), followed by Italy (n=44 or 14,7%), the United Kingdom (n=41 or 13,7%), France (n=31 or 10,4%) and Germany (n=27 or 9%). Of the 28 EU Member States at least one organisation from 20 of the countries coordinated a project with CELAC participation. The exemptions are: Croatia, Cyprus, Estonia, Hungary, Latvia, Lithuania, Slovakia and Slovenia.

Figure 9: H2020 projects (2014-2019) by country of lead of partner[22]



In total, organisations from 19 of the 33 CELAC countries participated in H2020 projects between 2014 and 2019 (see Figure 10). Brazil was the biggest player with a participation[23] of 26.5% (n=168), followed by Argentina 20.9% (n=132) and Chile 14.4% (n=91). Considering the instances of participation as well as projects by country, Mexico (n=66) and Colombia (n=54), also fall into the category of "very high cooperation" because their values qualify them to the in the upper quartile (see Table 6). This group of countries is followed by a group with lower instances of participation and projects but compared to the rest still relatively high; therefore, considered countries with "high cooperation". This group comprises of Peru (n=23), Uruguay (n=20), Ecuador (n=18) and Costa Rica (n=16). Medium cooperation countries, were grouped as those countries that fell between just above the 25th to 50th percentile and include: Cuba (n=15), Venezuela (n=6), Jamaica (n=6), Paraguay (n=5) and Bolivia (n=5). Low cooperation countries (with values covering the lower quartile or up to the 25th percentile) are: Guatemala (n=3), Nicaragua (n=2), Panama (n=1), Grenada (n=1) and the Dominican Republic (n=1). 14 CELAC countries did not participate in any Horizon 2020 projects between December 2014 and May 2019. These were: Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, El Salvador, Guyana, Haiti, Honduras, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago.

[22] Interpretation aid for Figure 9: [The data labels show the percentage share of the number of projects coordinated by each country from the total number of projects, while the data table shows the number (count) of projects coordinated by each country]

[23] In this chapter of the report, two variables that need clarification are used: "Number of projects" and "instances of participation". With regard to the first dataset described in 7.1.1, there were a total of 299 projects with EU and CELAC participation. In these projects, however, there were a total of 4630 instances of participation (633 from CELAC countries, 3117 from EU Member States and 880 from third countries). The instances of participation are much higher than the number of projects because, in almost all cases, the projects involved more than one institution from each region, in some cases, more than one institution from a specific country and some institutions were involved in more than one project.

Figure 10: Instances of participation of CELAC countries in H2020 (2014-2019) as "partners" or "third countries" with the exception of Chile and Uruguay of which one project each, coordinated by these countries was included in the dataset [Name of country; number of total participations; number of projects]

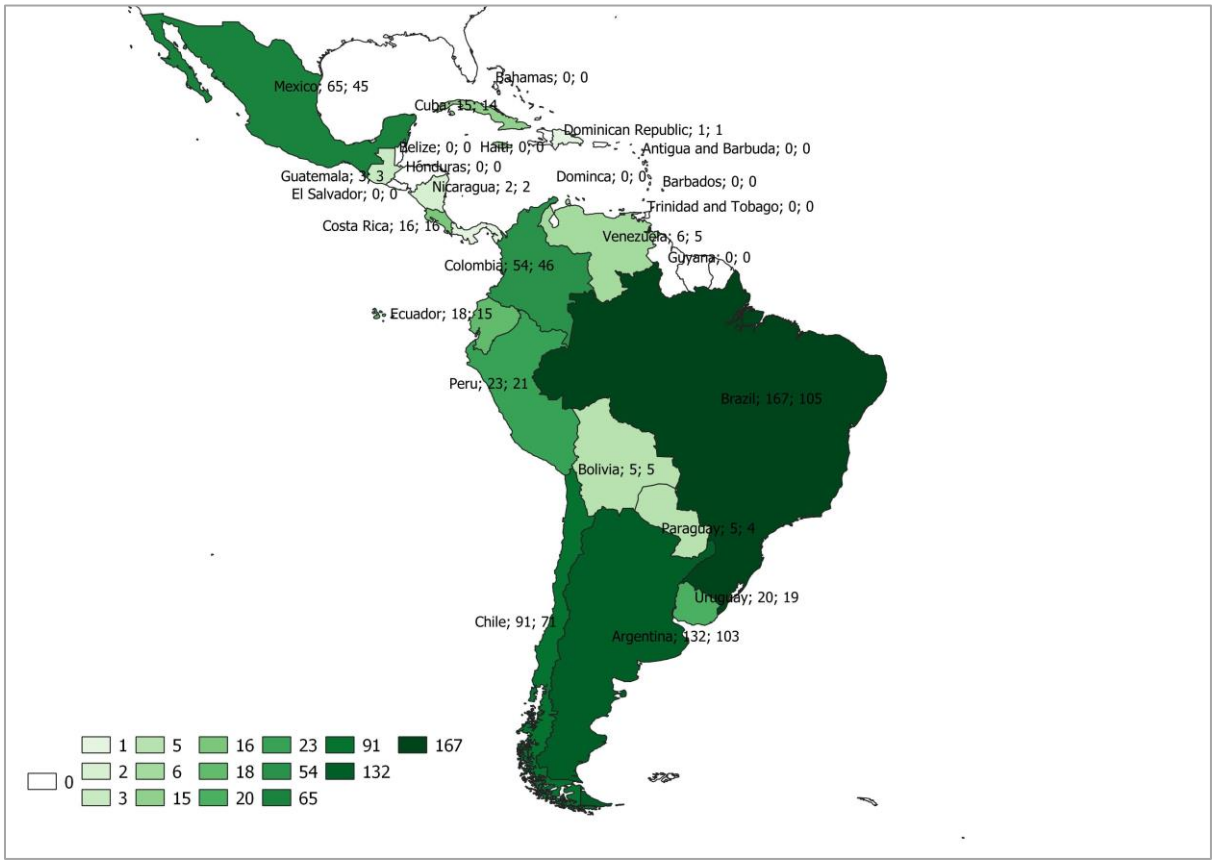


Table 6: CELAC countries by level of cooperation in Horizon 2020 (2014-2019)

	Instances of participation	Projects	
Antigua and Barbuda	0	0	No cooperation
Bahamas	0	0	
Barbados	0	0	
Belize	0	0	
Dominica	0	0	
El Salvador	0	0	
Guyana	0	0	
Haiti	0	0	
Honduras	0	0	
Saint Kitts and Nevis	0	0	
Saint Lucia	0	0	
Saint Vincent and the Grenadines	0	0	
Suriname	0	0	
Trinidad and Tobago	0	0	

Dominican Republic	1	1	Low cooperation
Grenada	1	1	
Panama	1	1	
Nicaragua	2	2	
Guatemala	3	3	
Bolivia	5	5	Medium cooperation
Paraguay	5	4	
Jamaica	6	6	
Venezuela	6	5	
Cuba[24]	15	14	
Costa Rica	16	16	High cooperation
Ecuador	18	15	
Uruguay	20	19	
Peru	23	21	
Colombia	54	46	Very high cooperation
Mexico	65	45	
Chile	91	71	
Argentina	132	103	
Brazil	167	105	

Moving from a country perspective to an institution perspective, Table 7 below shows the top 10 performing institutions in CELAC. In total, 23 organisations from nine countries make the list. Here, in contrast to the biggest CELAC player overall, Brazil, Argentina was to top player in the top 10 participating institutions with seven of the 23 organisations (30.4%), followed Brazil with five organisations, Chile with three, Mexico and Colombia with two and Costa Rica, Jamaica, Peru and Uruguay with one institution each in the top 10 CELAC participating countries.

Table 7: Top 10 performing institutions from CELAC in H2020 (2014-2019)

	Country	Instances of participation	Rank
PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE	Chile	21	1
UNIVERSIDAD DE CHILE	Chile	19	2
UNIVERSIDADE DE SAO PAULO	Brazil	19	2
CONSEJO NACIONAL DE INVESTIGACIONES CIENTIFICAS Y TECNICAS (CONICET)	Argentina	18	3
MINISTERIO DE CIENCIA, TECNOLOGÍA E INNOVACIÓN PRODUCTIVA	Argentina	17	4

[24] Although the number of instances of participation and projects for Cuba and Venezuela vary considerably compared to those between Cuba and Costa Rica which have been classified into two different groups; "medium cooperation" and "high cooperation" respectively, the group allocation is accurate as the grouping was done according to the interquartile distribution of the instances of participation. "Low cooperation" countries included those countries with instances of participation between the minimum value (1) and the 25th percentile (4). "Medium cooperation" countries included countries with instances of participation just above the 25th percentile (>4) and the 50th percentile (15); which corresponds to the instances of participation for Cuba. "High cooperation" countries involved countries with instances of participation just above the 50th percentile (>15) to the 75th percentile (38.5) and the "very high cooperation" countries had instances of participation just above the 74th percentile (>38.5) and the maximum value (167)

UNIVERSIDAD DE BUENOS AIRES	Argentina	17	4
UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO	Mexico	16	5
UNIVERSIDAD NACIONAL DE LA PLATA	Argentina	10	6
UNIVERSIDADE ESTADUAL DE CAMPINAS	Brazil	10	6
UNIVERSIDADE FEDERAL DO RIO DE JANEIRO	Brazil	10	6
PONTIFICIA UNIVERSIDAD CATOLICA DEL PERU	Peru	8	7
UNIVERSIDAD DE LA REPUBLICA	Uruguay	7	8
FUNDACAO OSWALDO CRUZ	Brazil	6	9
INSTITUTO TECNOLOGICO Y DE ESTUDIOS SUPERIORES DE MONTERREY	Mexico	6	9
UNIVERSIDAD DE CONCEPCION	Chile	6	9
UNIVERSIDAD DE COSTA RICA	Costa Rica	6	9
COMISION NACIONAL DE ENERGIA ATOMICA	Argentina	5	10
FUNDACION UNIVERSIDAD DEL NORTE	Colombia	5	10
PONTIFICIA UNIVERSIDAD JAVERIANA	Colombia	5	10
THE UNIVERSITY OF THE WEST INDIES U WI*	Jamaica	5	10
UNIVERSIDAD NACIONAL DE CORDOBA	Argentina	5	10
UNIVERSIDAD NACIONAL DE GENERAL SAN MARTIN	Argentina	5	10
UNIVERSIDADE FEDERAL DE SANTA CATARINA	Brazil	5	10

In comparison, all 28 EU Member States were involved in projects with CELAC countries in H2020 between 2014 and 2018 (see Figure 11). The biggest player was Spain with a participation of 16.4% (n=510), France with 11.5% (358), Germany with 11.2%, the United Kingdom with 10.7% (n=333) and Italy with 10.4% (n=324). Considering the quartile distribution, the Netherlands (n=190) and Belgium (n=145) are also categorised as countries with “very high cooperation” (see Table 8). Portugal (n=121), Sweden (n=87), Austria (n=87), Denmark (n=84), Greece (n=81), Poland (n=67) and Ireland (n=62) are ranked slightly lower as the countries listed previously as “high cooperation” countries. Medium cooperation countries are: Finland (n=59), Romania (n=46), Czech Republic (n=37), Slovenia (n=32), Bulgaria (n=28), Hungary (n=25) and Estonia (n=19). On the other hand, Cyprus (n=18), Croatia (n=15), Latvia (n=12), Slovakia (n=8), Luxembourg (n=8), Malta (n=7) and Luxembourg (n=5) are ranked as low cooperation countries (see Table 8).

Figure 11: Participation of EU Member States in H2020 projects (2014-2019) with CELAC countries

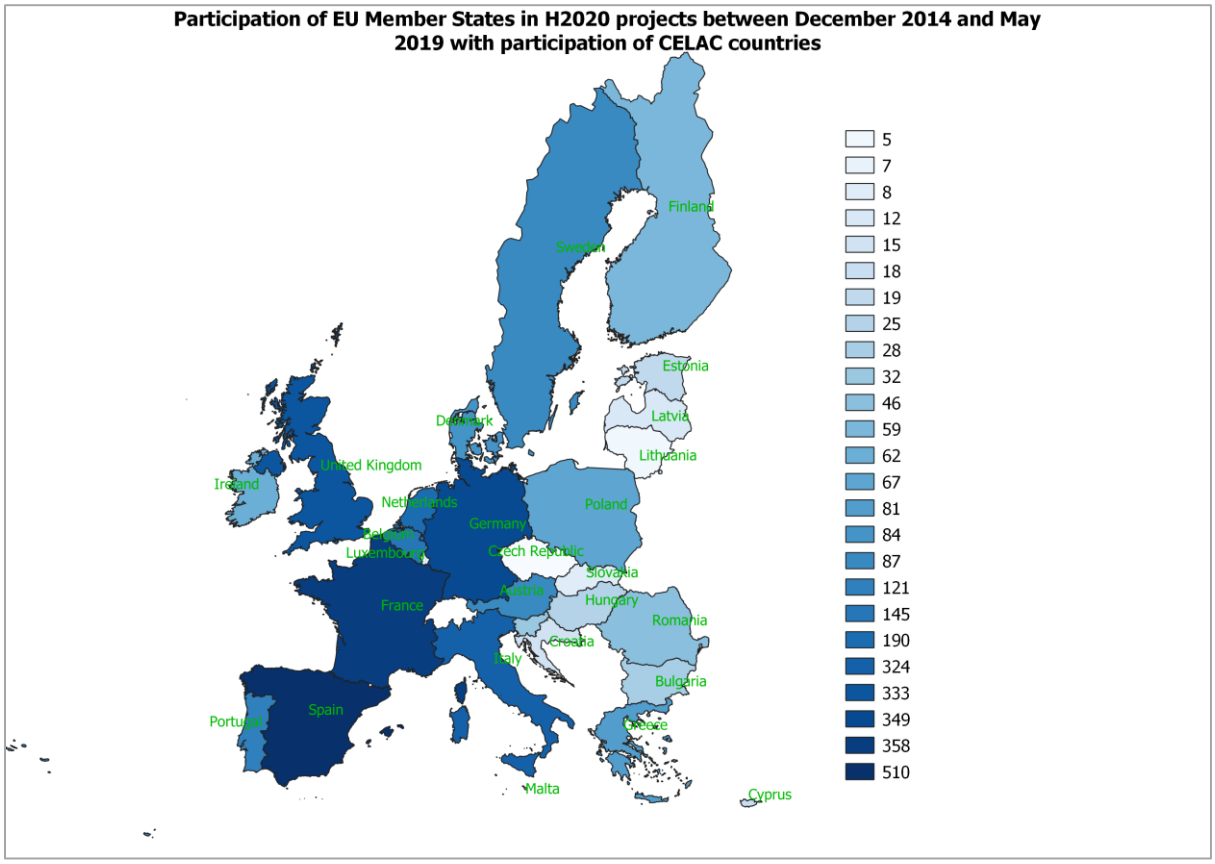


Table 8: EU Member States by level of cooperation in projects with CELAC countries in H2020 (2014-2019)

	Instances of participation	Projects	
Lithuania	5	5	Low cooperation
Malta	7	5	
Luxembourg	8	8	
Slovakia	8	7	
Latvia	12	11	
Croatia	15	13	
Cyprus	18	17	
Estonia	19	18	Medium cooperation
Hungary	25	23	
Bulgaria	28	24	
Slovenia	32	24	
Czech Republic	37	30	
Romania	46	32	
Finland	59	37	
Ireland	62	48	High cooperation
Poland	67	53	
Greece	81	46	
Denmark	84	54	
Austria	87	59	
Sweden	87	60	
Portugal	121	76	
Belgium	145	77	Very high

Netherlands	190	101	
Italy	324	150	
United Kingdom	333	163	
Germany	349	166	
France	358	159	
Spain	510	191	

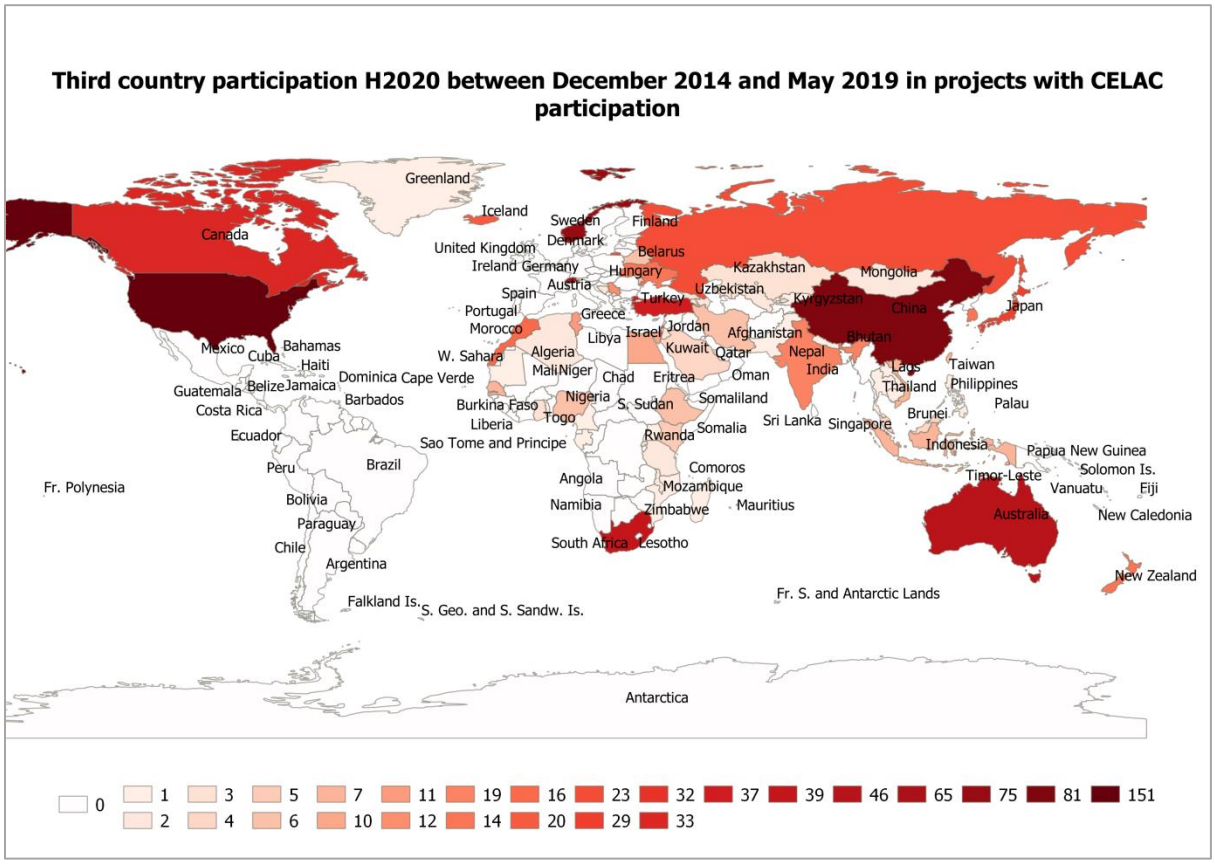
Considering the top 10 performing institutions in the European Union in Horizon 2020 projects with CELAC participation, 18 institutions in total from seven countries appear on the list. Spain, France, Italy and the Netherlands all have three institutions each included in the list while Denmark, Germany and the United Kingdom each have two.

Table 9: Top 10 performing institutions from the European Union in H2020 projects (2014-2019) with CELAC participation

	Country	Instances of participation	Rank
AGENCIA ESTATAL CONSEJO SUPERIOR DE INVESTIGACIONES CIENTIFICAS	Spain	29	1
CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE (CNRS)	France	26	2
CONSIGLIO NAZIONALE DELLE RICERCHE	Italy	24	3
INSTITUT NATIONAL DE LA RECHERCHE AGRONOMIQUE	France	20	4
AARHUS UNIVERSITET	Denmark	16	5
WAGENINGEN UNIVERSITY	Netherlands	16	5
FRAUNHOFER GESELLSCHAFT ZUR FOERDERUNG DER ANGEWANDTEN FORSCHUNG E.V.	Germany	14	6
UNIVERSITAT DE BARCELONA	Spain	13	7
INSTITUT DE RECHERCHE POUR LE DEVELOPPEMENT	France	12	8
MAX-PLANCK-GESELLSCHAFT ZUR FORDERUNG DER WISSENSCHAFTEN EV	Germany	12	8
TECHNISCHE UNIVERSITEIT DELFT	Netherlands	12	8
UNIVERSIDAD DE SEVILLA	Spain	12	8
ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA	Italy	11	9
STICHTING WAGENINGEN RESEARCH	Netherlands	11	9
THE CHANCELLOR, MASTERS AND SCHOLARS OF THE UNIVERSITY OF OXFORD	United Kingdom	11	9
UNIVERSITA DEGLI STUDI DI TORINO	Italy	11	9
KOBENHAVNS UNIVERSITET	Denmark	10	10
UNIVERSITY COLLEGE LONDON	United Kingdom	10	10

In terms of third countries, in total, 71 other countries were involved in EU-CELAC projects in H2020 between 2014 and 2019. The biggest player was the United States with 17.2% (n=151) instances of participation, followed by China 9.2% (n=81), Norway 8.5% (n=75) and Switzerland 7.4% (n=65)

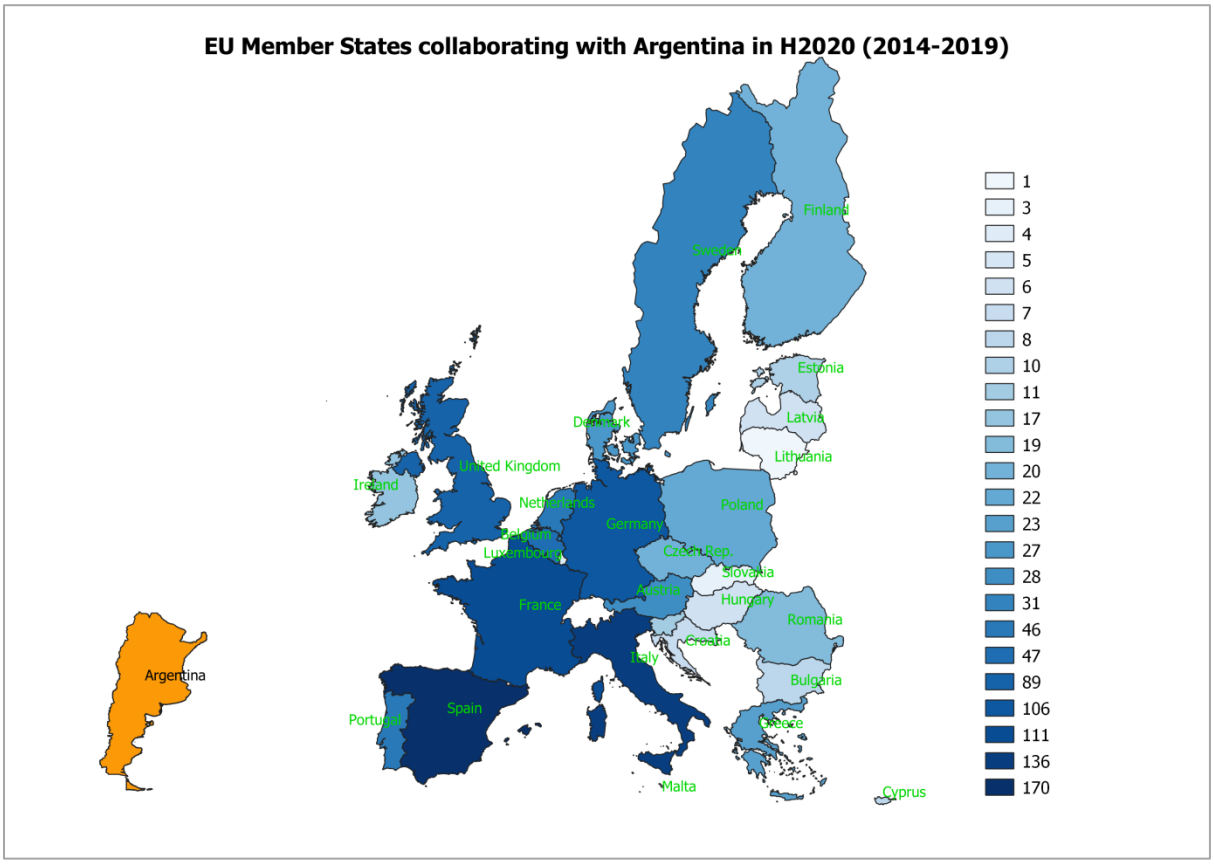
Figure 12: Third country participation in H2020 projects (2014-2019) with CELAC countries



For the purpose of this report, 7 CELAC countries were selected as specific countries of interest: Argentina, Brazil, Chile and Colombia ("very high cooperation" countries), Costa Rica and Ecuador ("high cooperation" countries) and Jamaica ("medium cooperation"). The graphs below will show the rate of participation of EU Member States with each of these countries in Horizon 2020 projects between 2014 and 2019.

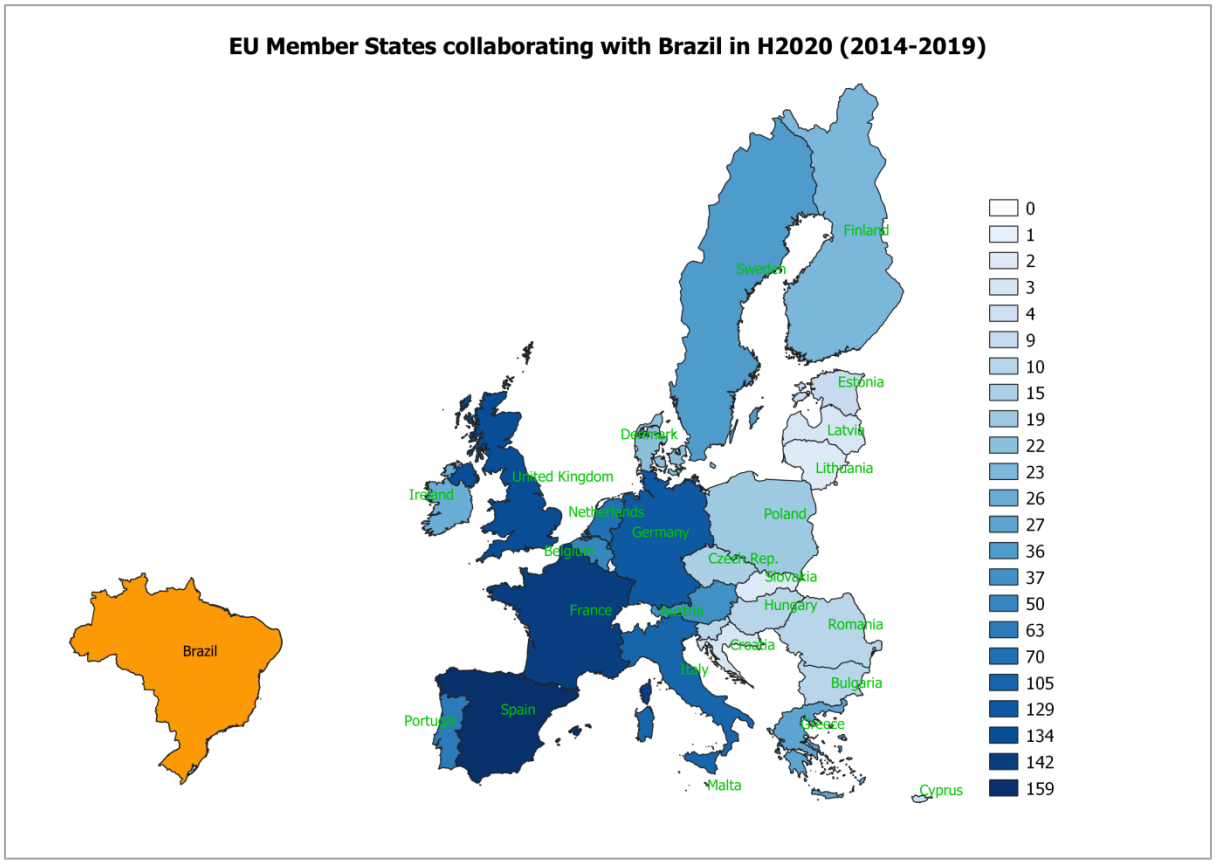
Taking all the projects with Argentinian participation together (n=103 with 132 instances participation), all the 28 EU Member States were involved but to different degrees (see Figure 13). Spain was the biggest collaborator with Argentina (instances of participation = 170), followed by Italy (instances of participation = 136), France (instances of participation = 111), Germany (instances of participation = 106) and the United Kingdom (instances of participation = 89).

Figure 13: EU Member States collaborating with Argentina in H2020 (2014-2019)



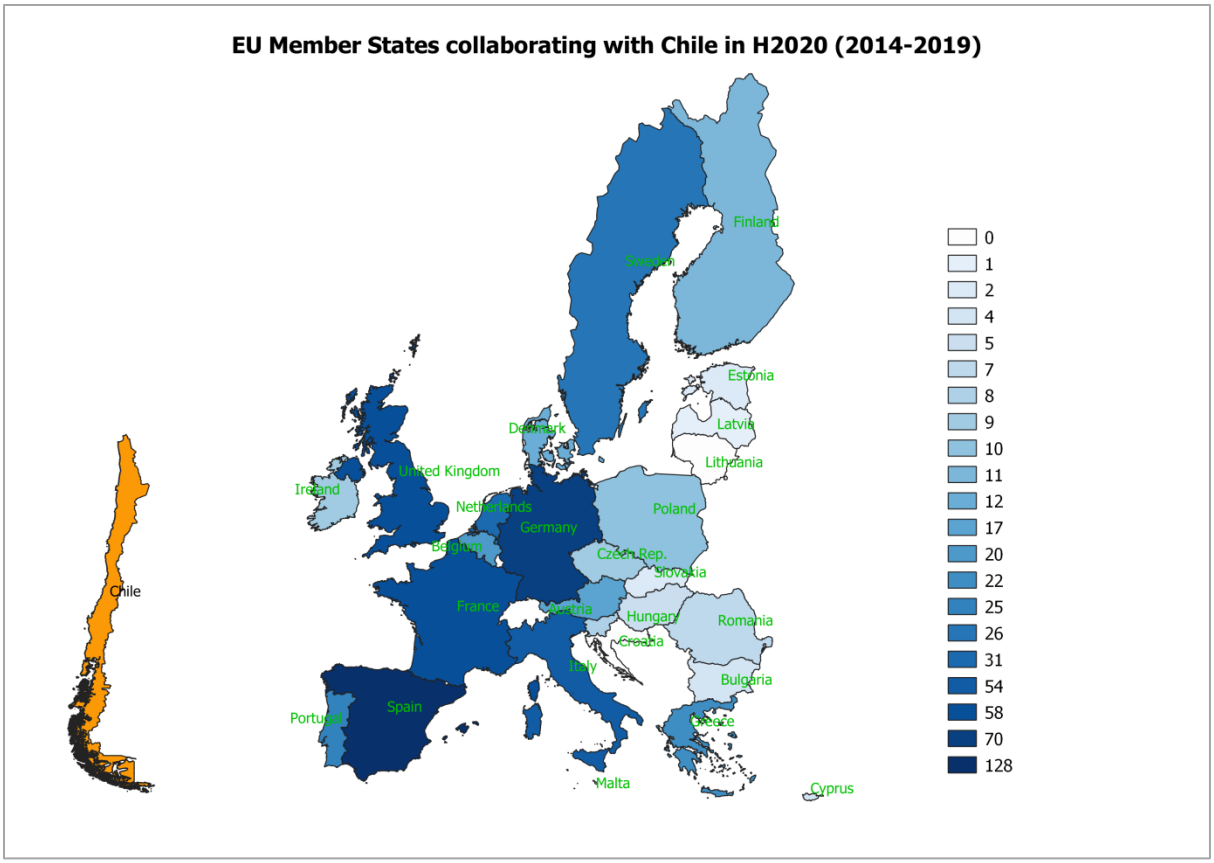
Brazil on the other hand was involved in 105 of the 297 ongoing Horizon 2020 projects (2014-2019) with CELAC participation with 168 instances of participation. Brazil collaborated with all 28 EU Member States except for Malta. Like Argentina, the top 5 collaborators were the same EU Member States just in a different order (see Figure 14). The strongest collaborators were: Spain (instances of participation = 159), France (instances of participation = 142), the United Kingdom (instances of participation = 134), Germany (instances of participation = 129) and Italy (instances of participation = 105).

Figure 14: EU Member States collaborating with Brazil in H2020 (2014-2019)



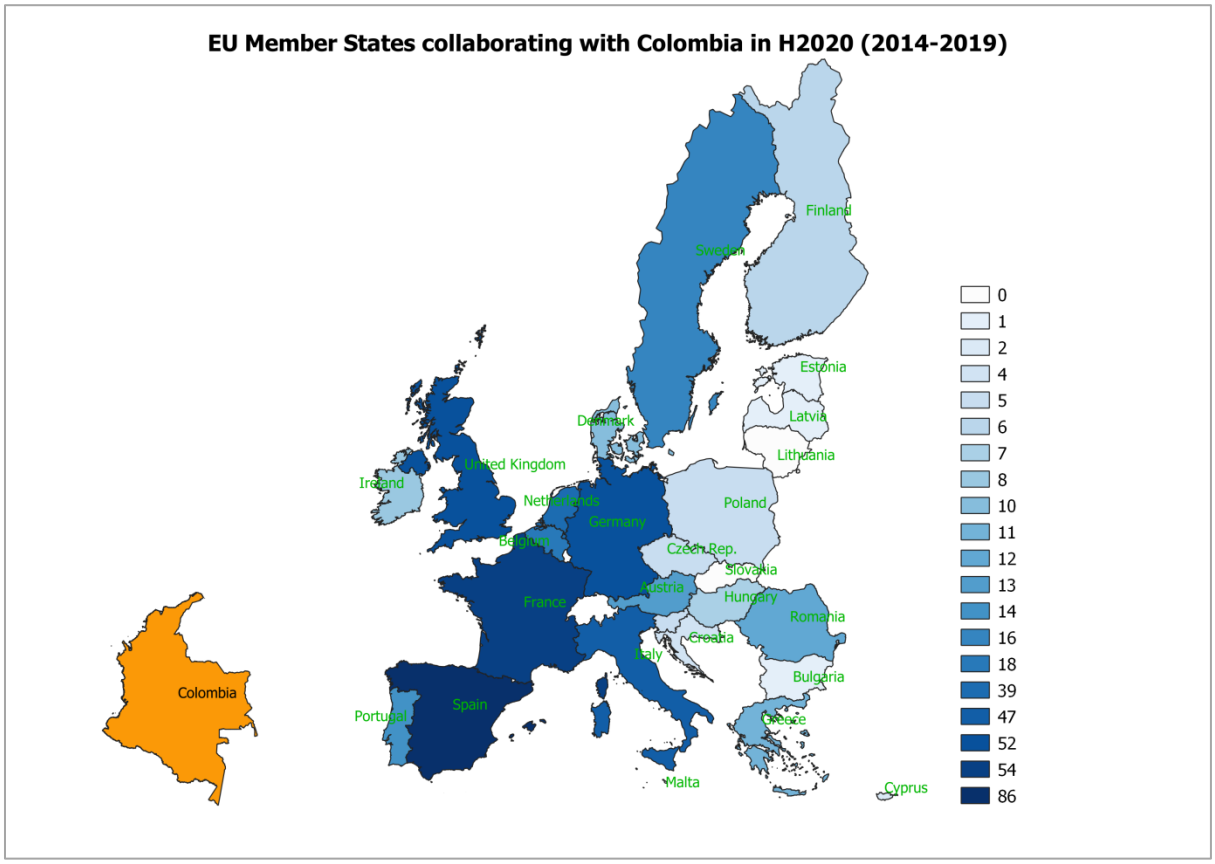
Looking at Chile more closely, it was involved in 71 of the 297 ongoing H2020 projects (2014-2019) with CELAC participation with 91 instances of participation. Chilean institutions collaborated with institutions from all but four EU Member States: Croatia, Lithuania, Luxembourg and Malta (see Figure 15). The top 5 countries collaborating with Chile were the same as for Argentina and Brazil but in a slightly different order: Spain (instances of participation = 128), Germany (instances of participation = 70), France and the United Kingdom (instances of participation = 58 each) and Italy (instances of participation = 54 each).

Figure 15: EU Member States collaborating with Chile in H2020 (2014-2019)



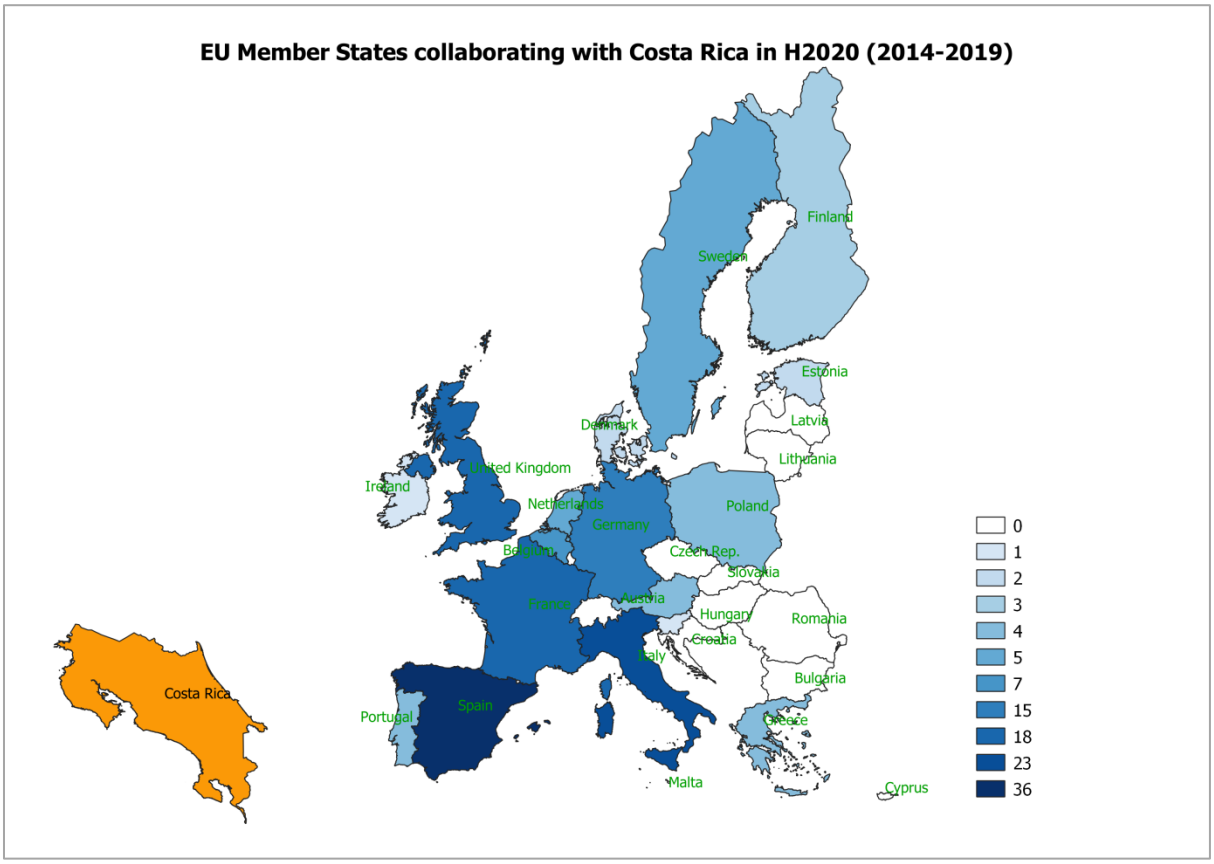
With 54 instances of participation in total, Colombia participated in 46 H2020 projects (2014-2019). The projects involved 24 of the 28 EU Member States. The four EU countries that were not involved in H2020 projects with Colombian participation were: Lithuania, Luxembourg, Malta and Slovakia (see Figure 16). Like with Argentina, Brazil and Chile, the top 5 collaborators with Colombia were: Spain (instances of participation = 86), France (instances of participation = 54), Germany and the United Kingdom (instances of participation = 52 each) and Italy (instances of participation = 47).

Figure 16: EU Member States collaborating with Colombia in H2020 (2014-2019)



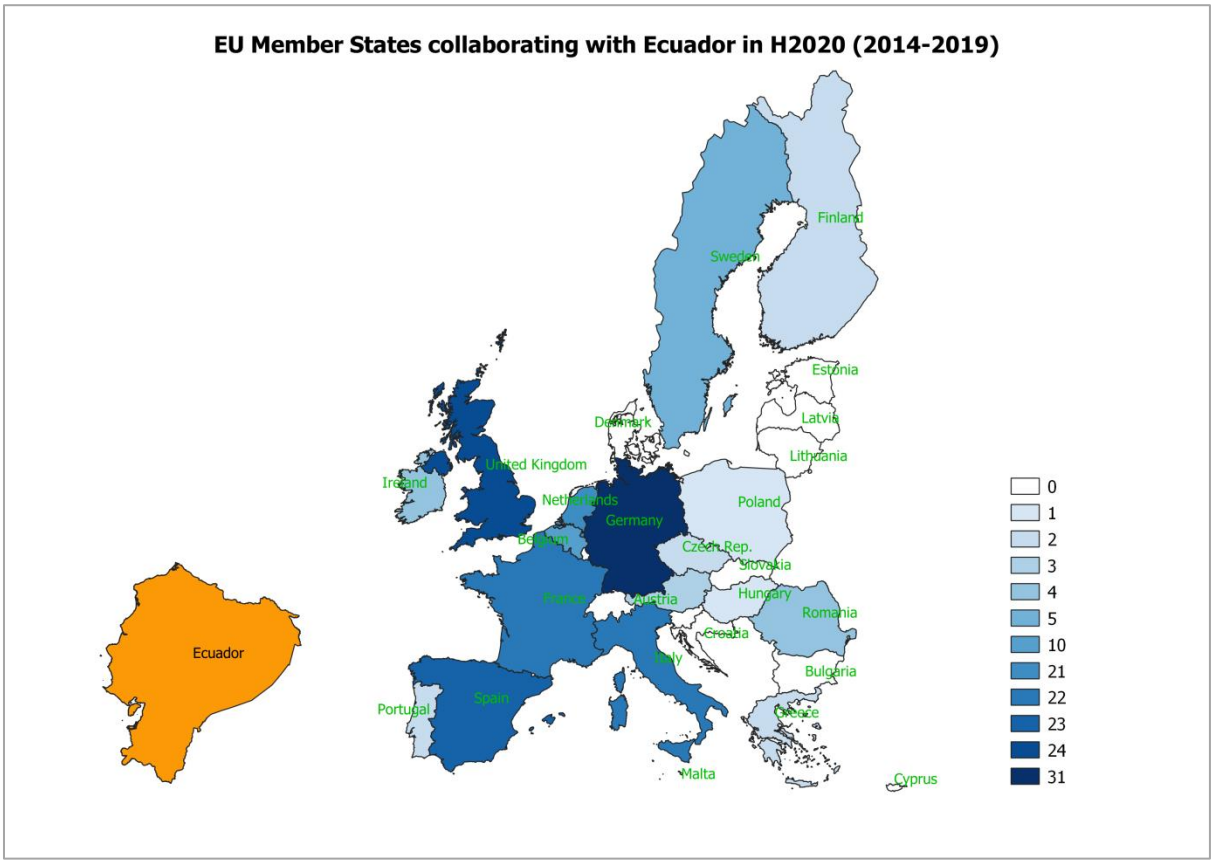
Costa Rica was involved in a total of 16 projects in Horizon 2020 between 2014 and 2019. In each project only a single Costa Rican institution was involved making the instances of participation also 16. From the 28 EU Member States, 17 were involved in the projects that involved Costa Rican institutions. The EU Member States with no collaboration with Costa Rica in Horizon 2020 projects between December 2014 and May 2019 were: Bulgaria, Croatia, Cyprus, Czech Republic, Hungary, Latvia, Lithuania, Luxembourg, Malta, Romania and Slovakia. The top 5 collaborating countries were the same as those with Argentina, Brazil, Chile and Colombia only in a different order: Spain (instances of participation = 36), Italy (instances of participation = 23), France and the United Kingdom (instances of participation = 18 each) and Germany (instances of participation = 15).

Figure 17: EU Member States collaborating with Costa Rica in H2020 (2014-2019)



From the 297 ongoing projects with CELAC participation in Horizon 2020 between December 2014 and May 2019, Ecuador took part in 15 projects with 18 instances of participation. These projects involved among others, 17 of the 28 EU Member States. The 11 EU Member States that did not participate in any of these projects include: Bulgaria, Croatia, Cyprus, Denmark, Estonia, Latvia, Lithuania, Luxembourg, Malta, Slovakia and Slovenia. Unlike any of the other countries discussed above, all of whose main collaborating partner was Spain, Ecuador's top 5 collaborating partners were the same, however the main collaborating partner was Germany (instances of participation = 31) and not Spain (instances pf cooperation = 23). The United Kingdom was the second biggest collaborating partner for Ecuador in Horizon 2020 (2014-2019) after Germany with 24 instances of participation followed by Spain then France and Italy both with 22 instances of collaboration in total in the projects with Ecuadorian involvement (see Figure 18).

Figure 18: EU Member States collaborating with Ecuador (2014-2019)



Similar to Costa Rica, Jamaica was involved with one organisation each, in six Horizon 2020 projects (2014-2019); making the instances of participation also six. In these projects, 13[25] of the 28 EU Member States also participated. France and Spain were jointly the strongest EU collaborators for Jamaica with 8 total instances of participation in the six projects that Jamaica was involved in, followed by Italy and the United Kingdom with six each and finally the Netherlands with 5 instances of participation (see Figure 19). Worth noting is that Germany was in the top 5 collaborators of all the other countries described above, whereas with Jamaica it narrowly missed making this ranking. The Netherlands on the other hand, which is the 5th biggest collaborator for Jamaica, did not appear in any of the other countries top 5 ranking, however it was always in the middle sphere.

[25] The 15 EU Member States that did not participate in projects with Jamaica were: Belgium, Bulgaria, Croatia, Cyprus, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Poland, Romania, Slovakia and Sweden.

Figure 19: EU Member States collaborating with Jamaica in H2020 (2014-2019)

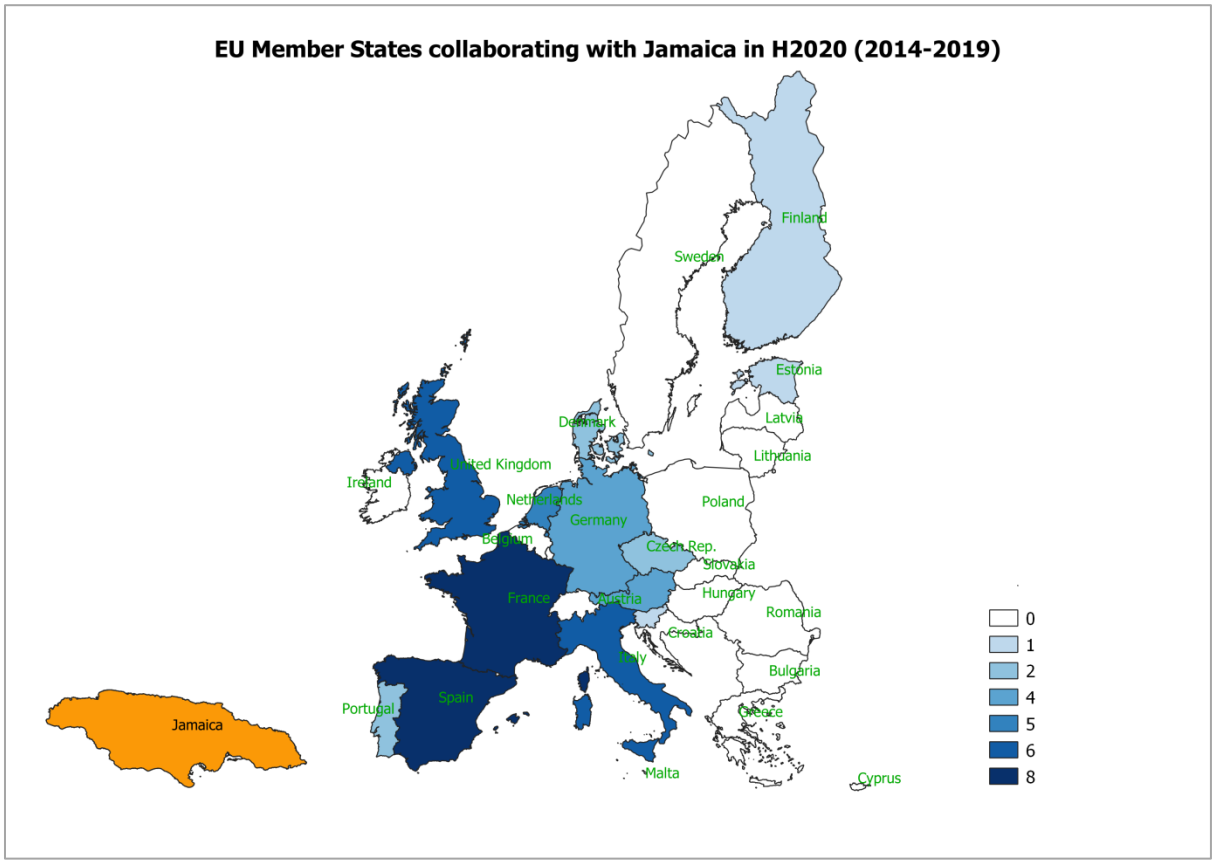
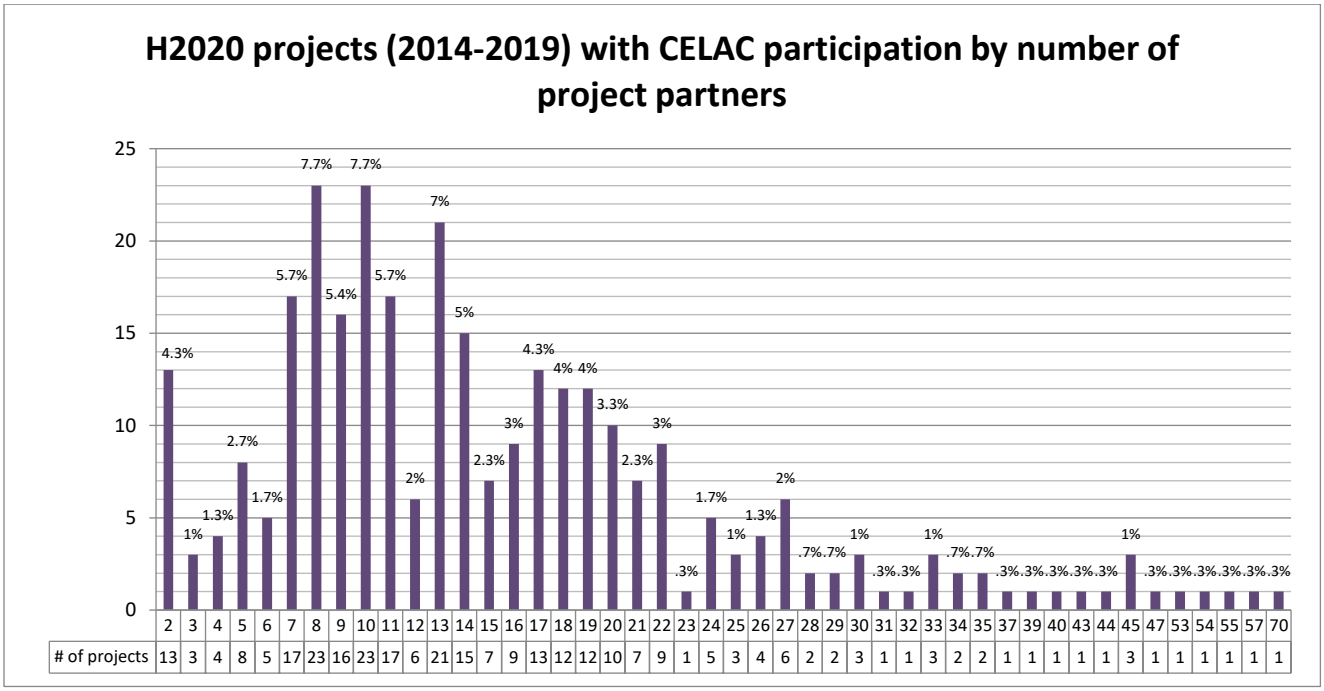


Table 10: Collaboration between selected CELAC countries with EU Member States in H2020 (2014-2019)

	Argentina (projects=103 participation=132)	**Brazil (projects=105 participation=168)**	**Chile (projects=71 participation=91)**	**Colombia (projects=46 participation=54)**	**Costa Rica (projects=16 participation=16)**	**Ecuador (projects=15 participation=18)**	**Jamaica (projects=6 participation=6)**
Austria	28	37	17	13	4	3	4
Belgium	47	50	20	18	7	10	0
Bulgaria	8	10	4	1	0	0	0
Croatia	7	3	0	4	0	0	0
Cyprus	8	4	4	2	0	0	0
Czech Rep.	20	15	9	5	0	2	2
Denmark	27	22	12	10	2	0	2
Estonia	10	9	2	1	2	0	1
Finland	20	23	11	6	3	2	1
France	111	142	58	54	18	22	8
Germany	106	129	70	52	15	31	4
Greece	23	27	22	11	4	2	0
Hungary	6	10	5	7	0	1	0
Ireland	17	26	9	8	1	4	0
Italy	136	105	54	47	23	22	6
Latvia	6	3	1	1	0	0	0
Lithuania	1	2	0	0	0	0	0
Luxembourg	4	1	0	0	0	0	0
Malta	5	0	0	0	0	0	0
Netherlands	46	70	31	39	5	21	5
Poland	22	19	10	5	4	1	0
Portugal	46	63	25	14	4	2	2
Romania	19	10	7	12	0	4	0
Slovakia	3	2	2	0	0	0	0
Slovenia	11	10	8	5	1	0	1
Spain	170	159	128	86	36	23	8
Sweden	31	36	26	16	5	5	0
United Kingdom	89	134	58	52	18	24	6

The following section considers the project composition of Horizon 2020 projects (2014-2019) with CELAC participation. The average size of a consortium is about 16 partners with the smallest consortiums consisting of only two partners and the largest, 70 partners. More than three quarters of the projects, 78.3%, have 20 partners or less in the consortium (see Figure 20).

Figure 20: H2020 projects (2014-2019) with CELAC participation by number of project partners[26]



The number of project partners also differed depending on the actions that the projects were implementing. Projects under the MSCA-RISE action were by far the most common, with 46.5% or 139 projects falling into this action (see Figure 21). For such projects, the average number of project partners was 12. Projects under the research and innovation action (RIA) were the second most common type of projects with 21.7% or 65 projects. The average number of project partners for such projects was 20, in comparison to MSCA-RISE projects, relatively higher. The two figures below show the average number of project partners in all Horizon2020 projects with EU-CELAC participation by action (Figure 21) as well as the number of projects funded under each action (Figure 22).

[26] Interpretation aid for Figure 20: The horizontal axis of this graph shows the number of project partners in the Horizon 2020 projects from 2 to 70. The data table shows the number of projects with the specific number of project partners represented in the horizontal axis for example there were 13 projects with 2 project partners each. The data labels on the other hand represent the percentage share of the number of projects with the specific number pf partners from the total number of projects e.g. the 13 projects with 2 partners each represent 4.3% of the 299 projects Horizon 2020 projects with EU-CELAC participation in the studied period

Figure 21: Number of project partners in H2020 projects (2014-2019) with CELAC participation by action

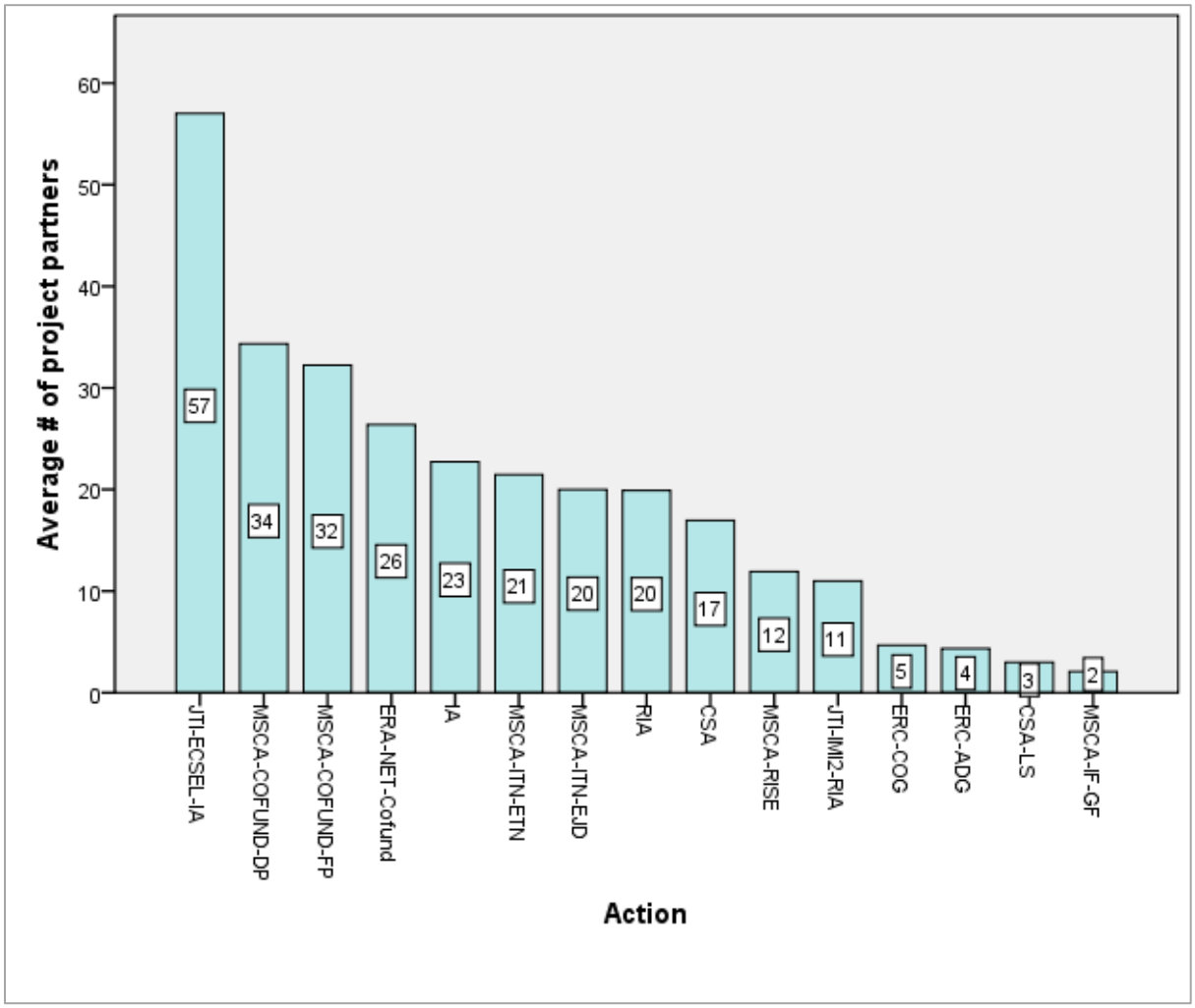
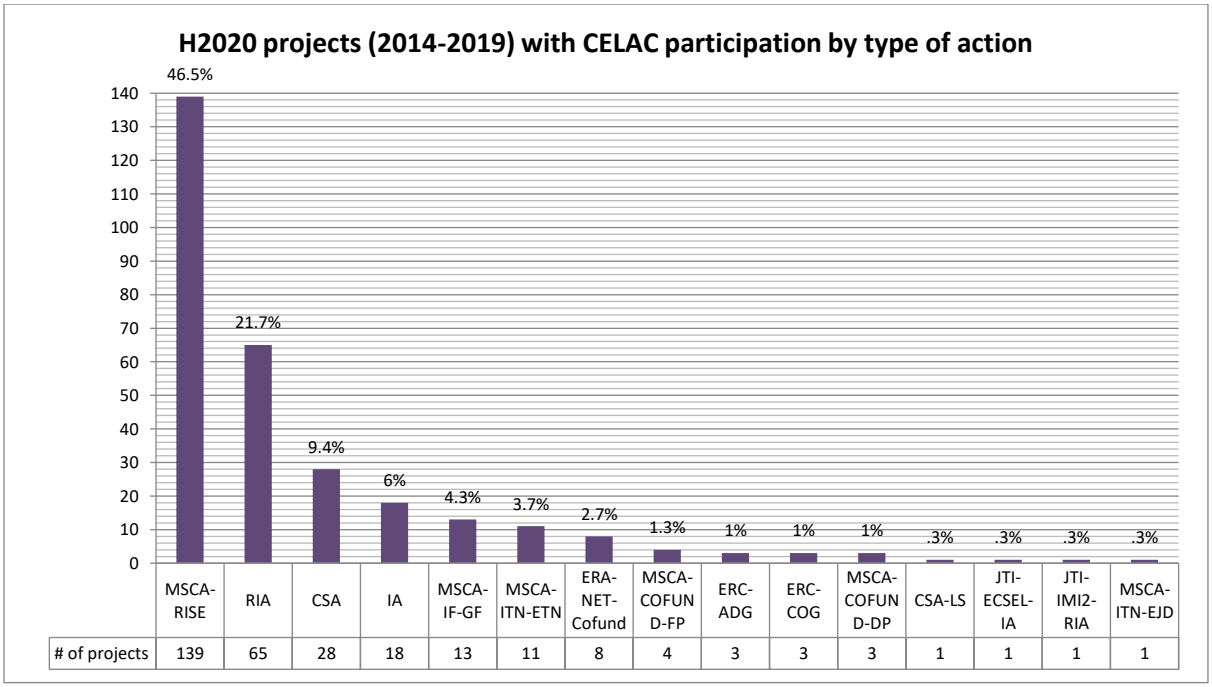


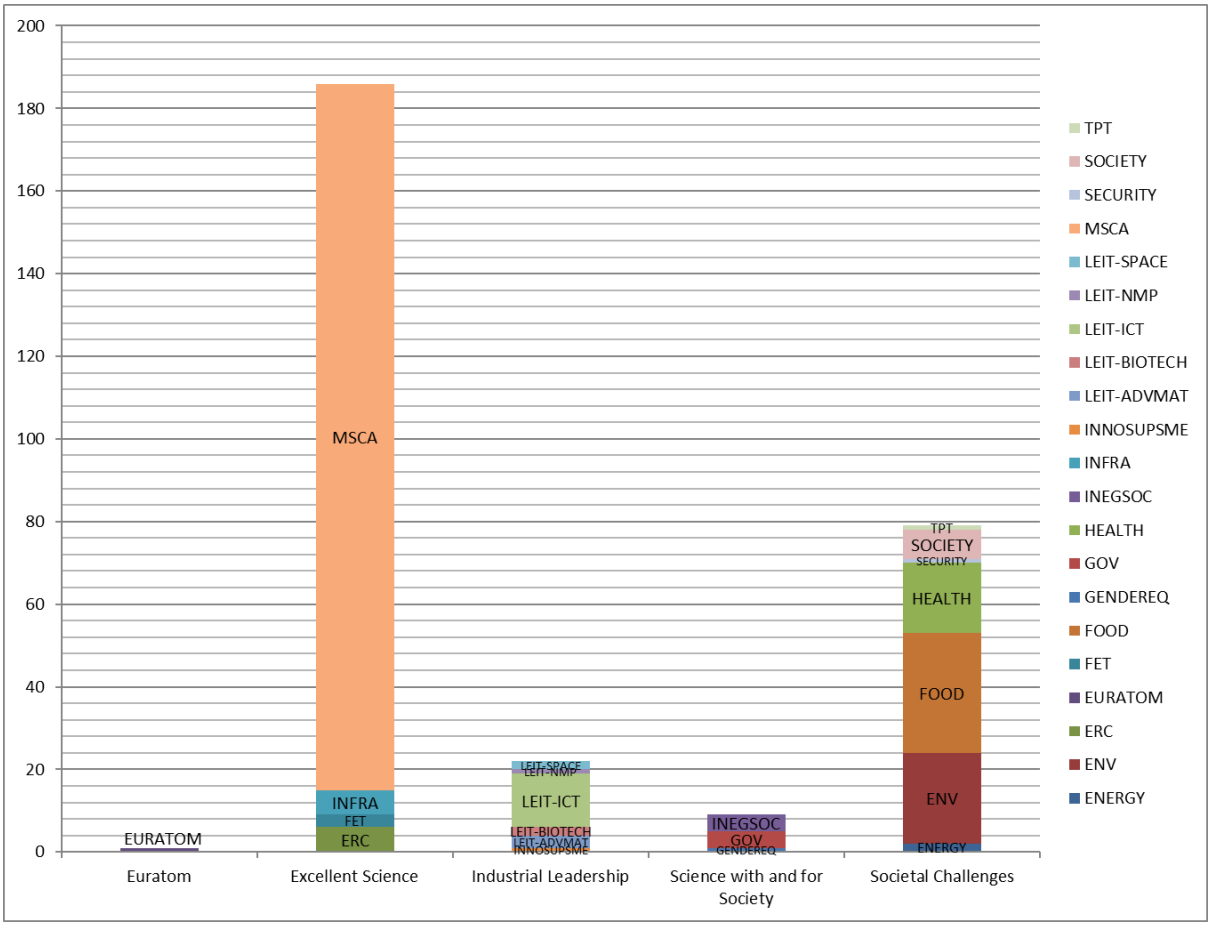
Figure 22: H2020 projects (2014-2019) with CELAC participation by type of action



7.1.1.2 Thematic clustering

The thematic structure of Horizon 2020 is divided into 3 pillars: “excellent science”, “industrial leadership” and “societal challenges” as well as two specific objectives: “spreading excellence and widening participation” and “science with and for society”. The Horizon 2020 projects between December 2014 and May 2019 with CELAC participation included projects that fell into all these subjects with the exception of the specific objective “spreading excellence and widening participation”; of which CELAC countries are not eligible[27]. Instead, these projects included one project under the “Euratom” programme of which according to the European Commission website[28], such projects “reinforce the outcomes under the three priorities of horizon 2020: Excellent science, industrial leadership and societal challenge.”

Figure 23: H2020 projects (2014-2019) with CELAC participation according to H2020 main structure of three pillars and two specific objectives



62.9% of the projects fall under the pillar of "Excellent Science" - this includes all MSCA, ERC and FET projects, 26.4% under "Societal Challenges" - this includes all the projects under the topics food, environment, health society, energy, security and TPT, 7.4% under "Industrial leadership" - including

[27] The Member States currently eligible for “spreading excellence and widening participation” are: Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Luxembourg, Malta, Poland, Portugal, Romania, Slovakia and Slovenia. The associated countries also eligible are: (subject to valid association agreements of third countries with Horizon 2020): Albania, Armenia, Bosnia and Herzegovina, Faroe Islands, The Republic of North Macedonia, Georgia, Moldova, Montenegro, Serbia, Tunisia, Turkey and Ukraine. Source:
[28] https://ec.europa.eu/programmes/horizon2020/en/h2020-section/euratom

all the projects under the topics LEIT-ICT, LEIT-ADVMAT, LEIT-BIOTECH, LEIT-SPACE, INNOSUPSME and LEIT-NMP, 3% under "Science with and for society" - including all projects under the topics GOV, INEGSOC and GENDEREQ and 1 project (.3%) under "Euratom".

As depicted by Figure 23 above, CELAC participation in the Horizon 2020 programme differs in the different pillars and specific objective and is not directly proportional to the available funding volume available for each topic. Take for example the pillar “excellent research”. The table below shows the amount of funding available for each topic funded under this pillar.

Table 11: Total funding in H2020 (2014-2020) for the pillar: “Excellent science”

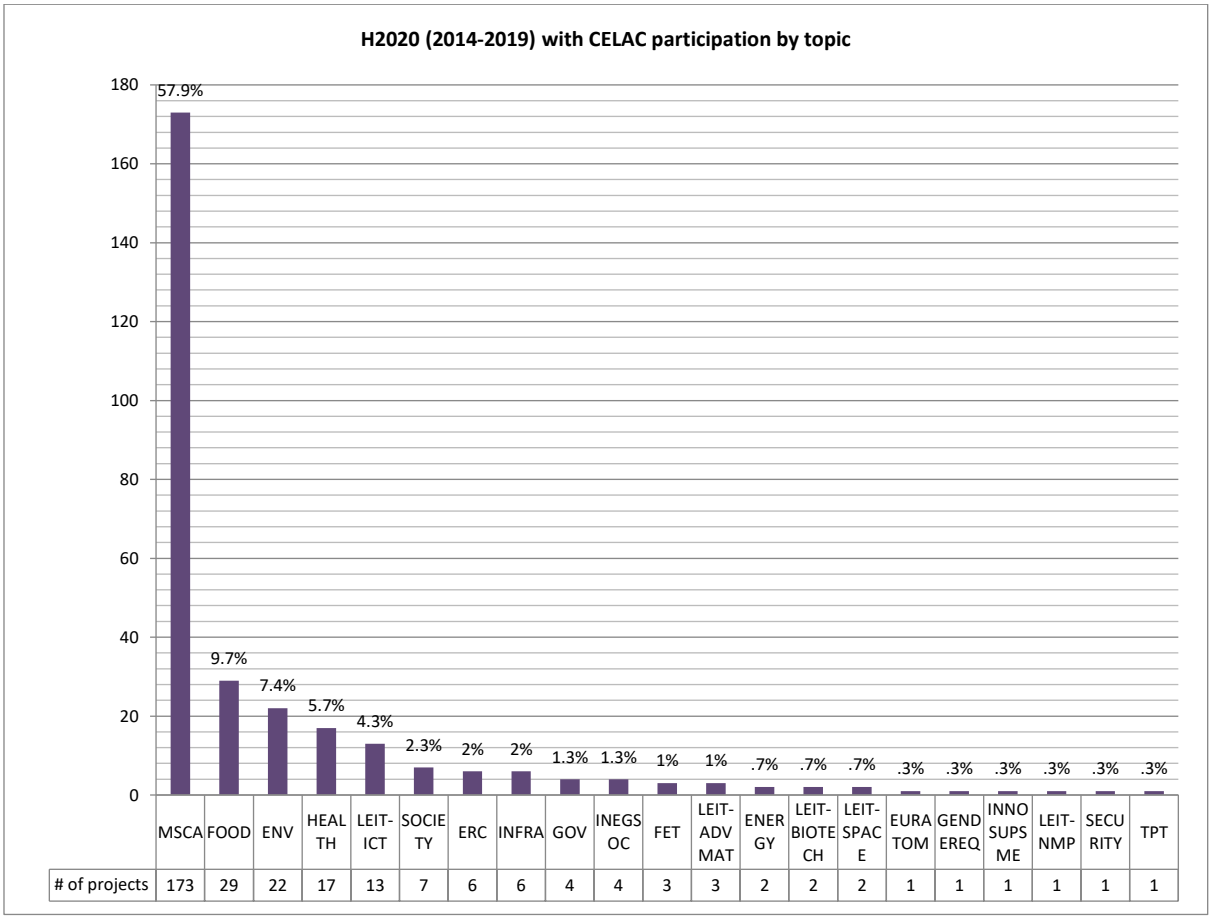
Total funding for 2014-2020	€ million
European Research Council (ERC) Frontier research by the best individual teams	13 095
Future & emerging technologies Collaborative research to open new fields of innovation	2 696
Marie Skłodowska-Curie actions (MSCA) Opportunities for training and career development	6 162
Research infrastructures (including e-infrastructure) Ensuring access to world-class facilities	2 488

[29]

In the period between December 2014 and May 2019, 173 of the 297 ongoing projects with CELAC involvement (57.9%) had been funded under this scheme. However, in comparison to the other three topics under this pillar MSCA only received the second highest funding. ERC on the other hand had the biggest budget and here, only 6 projects with CELAC participation (2%) had been funded in this period (see Figure 24). Although the number of projects funded under each scheme are not proportional to the available funding, this can be explained by the fact that for example MSCA projects tend to have a considerably lower budget (average project budget of €1,346,628.24 with an average EC contribution of €1,155,381.56) than ERC projects (average project budget €2,187,962.50 and an average EC contribution of €2,179,629.17). Furthermore, projects under ERC are known to be highly competitive.

[29] Source: https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/find-a-call/h2020-structure-and-budget_en.htm

Figure 24: Horizon 2020 projects (2014-2019) with CELAC participation by project



From this thematic clustering, some gaps emerge. Under the pillar: "Industrial leadership", three topics have been defined in the Horizon 2020 work programme: Leadership in enabling & industrial technologies (LEITs), access to risk finance and innovation in SMEs. According to Figure 22, in the period being studied, no projects with CELAC participation fell into the topic of "access to risk finance".

Taking the pillar "societal challenges" into consideration, projects with CELAC participation in H2020 (2014-2019) covered each of these topics, nevertheless, not proportionally to the available funding. Table 12 below shows the available funding by topic in Horizon 2020 between 2014 and 2019 as well as the number of projects with CELAC participation undertaken in each topic in the period between December 2014 and May 2019. The highest funding budget available in this pillar is for the topic health (7 472 € million) which had the third highest number of projects (n=17). The highest number of projects were under the topic food (n=22) which in comparison had the fourth highest budget (3 851 € million). In the period under study, there was only one project with CELAC participation in the area of transport although this topic has the second highest available budget. The topic of "energy" undergoes through a similar situation; this area has been dedicated the third highest budget (5 931 € million) under the pillar of societal challenges but only two projects have been implemented with CELAC participation so far. Like the topic of food, there were relatively many projects (n=22) under the area of "environment" (budget: 3 081 € million). Although the topic of security has the second least budget in this pillar (1 695 € million), the implementation of just one project with CELAC participation under this topic is rather low. The lowest budget in this pillar is assigned to the topic of "society" (1 310 € million) of which seven projects with CELAC participation have been implemented between 2014 and 2019.

Table 12: Total funding in H2020 (2014-2019) in the pillar: "societal challenges" by number of projects undertaken in each topic

Topics under the pillar of societal change in H2020		# of projects	Total funding in € million for 2014-2020[30]
Health	Health, demographic change and wellbeing	17	7 472
Food	Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy	29	3 851
Energy	Secure, clean and efficient energy	2	5 931
Transport	Smart, green and integrated transport	1	6 339
Environment	Climate action, environment, resource efficiency and raw materials	22	3 081
Society	Inclusive, innovative and reflective Societies	7	1 310
Security	Secure societies	1	1 695

Below each of topics covered by the 297 ongoing Horizon 2020 projects with CELAC participation will be discussed in more detail.

7.1.1.2.1 Pillar 1: Excellent science

The pillar excellent science includes the following areas: European Research Council (ERC), future and emerging technologies, Marie Sklodowska-Curie actions (MSCA) and research infrastructures (including e-infrastructure).

Six projects in total were implemented under ERC (total dedicated budget 13 095 € million). Among the CELAC countries, Brazil, Chile, Colombia and Guatemala took part in this thematic area. Brazil had a total participation of 168 in the Horizon 2020 projects (2014-2019) with CELAC participation, it's participation in this thematic area amounted to only 1.2% (n=2) of its total participation, for Chile (total participations=91) this was 2.2% (n=2), for Colombia 1.9% (total participations=54) and for Guatemala (total participations=3) 33.3% (n=1).

The thematic area of future and emerging technologies (total dedicated budget 2 696 € million) had only three projects with the participation of three CELAC countries: Brazil (3.6%, n=6), Mexico (1.50%, n=1) and Paraguay (20%, n=1).

Marie Sklodowska-Curie actions (MSCA) were by far the most popular projects with CELAC participation (total dedicated budget 6 162 € million). 15 of the 19 CELAC countries that participated in Horizon 2020 projects between December 2014 and May 2019 had at least one project in this area. The four countries that did not implement any Marie Sklodowska-Curie actions were: Grenada, Guatemala, Nicaragua and Panama, all which belong to the "low cooperation" countries (see Table 6);

[30] Source: https://ec.europa.eu/research/participants/docs/h2020-funding-guide/grants/applying-for-funding/find-a-call/h2020-structure-and-budget_en.htm

here the exception was the Dominican Republic which had a single project under MSCA. Over 40% of the instances of participation of countries ranked as “very high cooperation” countries were in Marie Sklodowska-Curie actions: Brazil (46.7%, n=78), Argentina (71.2%, n=94), Chile (71.4%, n=65), Mexico (44.6%, n=29) and Colombia (57.4%, n=31). The group of countries with the second highest rate of cooperation, those ranked as having “high cooperation”, had a total participation in Marie Sklodowska-Curie actions ranging from about 38% to about 56%: Peru (56.5%, n=13), Uruguay (40%, n=8), Ecuador (38.9%, n=7) and Costa Rica (56.3%, n=9). Medium cooperation countries had a relative varying participation in Marie Sklodowska-Curie actions: Cuba (73.3%, n=11), Venezuela (100%, n=6), Jamaica (16.7%, n=1), Paraguay (60%, n=3) and Bolivia (80%, n=4). From these data, Argentina, Brazil and Chile are the leading countries in Marie Sklodowska-Curie actions with a total share of 65.9% and an individual share of 26.1%, 21.7% and 18.1% respectively of all the participations in Marie Sklodowska-Curie actions. Chapter 7.1.2 analyses Marie Sklodowska-Curie actions in more details and provides among other data on sending (Table 17) and receiving (Table 16) countries both for EU and CELAC participants.

The last thematic area under the “excellent science” pillar, research infrastructures (including e-infrastructures with a total dedicated budget of 2 488 € million, had 6 projects in total with CELAC participation between December 2014 and May 2019. Uruguay followed by Mexico and Chile were the most active in this area with a total share of 61.6% and an individual share of 30.8% (n=4) and 15.4% (n=2) each for Mexico and Chile. Argentina, Brazil, Colombia, Ecuador and Grenada had one instance of participation each in this thematic area.

7.1.1.2.2 Pillar 2: Industrial leadership

The second pillar of Horizon 2020, industrial leadership, includes the following thematic areas: Leadership in enabling & industrial technologies (LEITs) (total dedicated budget 13 557 € million), access to risk finance (total dedicated budget 2 842 € million) and innovation in SMEs (total dedicated budget 616 € million). As mentioned previously, all three topics except access to risk finance were represented by Horizon 2020 projects (2014-2019) with CELAC participation.

Under the thematic area leadership in enabling & industrial technologies six specific sub-topics have been defined: ICT, nanotechnologies, materials, biotechnology, manufacturing and space. Horizon 2020 projects (2014-2019) with CELAC participation covered all these sub-topics except for manufacturing. In total, 21 projects in this area were implemented: 13 projects in ICT, one project in nanotechnologies (Chile with one participation), three projects in advanced materials (Argentina and Brazil with one and three participations respectively), two projects in biotechnology (Brazil with a total of five participations) and two projects in Space (Argentina and Chile, with one participation each). Projects in the area of LEIT-ICT included the participation of 6 countries. Mexico was the most active CELAC country in this area with a share of 54.8% (n=17) of all LEIT-ICT projects translating to 26.2% of its total participation in Horizon 2020. Brazil was the second most active CELAC country in this area with a share of 32.3% (n=10) of the total LEIT-ICT projects making up 6% of its total participation in Horizon 2020 between 2014 and 2019. Argentina, Colombia, Guatemala and Uruguay all had one instance of participation each on LEIT-ICT projects.

The area of innovation in SMEs only had a single project with the participation of Chile.

7.1.1.2.3 Pillar 3: Societal challenges

Societal challenges is the third Horizon 2020 pillar with the following thematic areas: Health, demographic change and wellbeing (total dedicated budget 7 472 € million), food security, sustainable agriculture and forestry, marine/maritime/inland water research and the bioeconomy (total dedicated budget 3 851 € million), secure, clean & efficient energy (total dedicated budget 5 931 € million), smart, green & integrated transport (total dedicated budget 6 339 € million), climate action, environment, resource efficiency & raw materials (total dedicated budget 3 081 € million), inclusive, innovative & reflective societies (total dedicated budget 1 310 € million) and secure societies (total dedicated budget 1 695 € million)[31] (see Table 12).

The thematic area with the most projects was food. In this area, 29 projects with CELAC participation were undertaken by 11 CELAC countries in total. Jointly Argentina and Brazil were the biggest players with a participation of 23.3% each, followed by Chile with a participation of 11.6% comprising 58.2% of the total participation in this thematic area. Although these countries dominate this thematic area, considering each of their total participations in the 297 Horizon 2020 projects (2014-2019), this topic only plays a small role in their total engagement; for Argentina, the thematic area of food only makes up 7.6% of its total participation, for Brazil its 6% and for Chile 5.5%. The other eight countries involved in this topic are: Colombia with two participations making 4.7% of the total participations in the thematic area of food, Costa Rica (n=3 or 7%), Cuba (n=2 or 4.7%), Jamaica (n=1 or 2.3%), Mexico (n=4 or 9.3%), Nicaragua (n=1 or 2.3%), Peru (n=3 or 7%) and Uruguay (n=2 or 4.7%).

After food, the topic of environment had the second most projects; 22 projects with a participation of eight countries. About 90% of the share of participations in this area are from: Brazil (n=8 or 25%), Argentina (n=7 or 21.9%), Colombia and Ecuador with (n=4 or 15.6% each) and Chile (n=4 or 12.5%). Mexico, Peru and Uruguay also took part in this topic but with a single instance of participation each.

14 of the 19 CELAC countries participating in Horizon 2020 between 2014 and 2019 took part in projects involving the thematic area of health in a total of 17 projects. Brazil, Argentina and Colombia were the biggest players with a total share of 60.3% of all participations in this thematic area: 30.8% (n=24), 15.4% (n=12) and 14.1% (n=11) respectively. The other two countries ranked as having “very high cooperation” together with Brazil, Argentina and Colombia in comparison to the rest of the countries also had a relative high share of participation in this thematic area; namely 9% (n=7 each). The other countries involved in this area are: Peru (n=4), Ecuador (n=3), Uruguay (n=3), Cuba (n=2) and Costa Rica, Jamaica, Nicaragua, Panama and Paraguay with one instance of participation each.

Society had the fourth most projects in the pillar of societal challenges with seven projects in total with an involvement of nine countries. Here, Brazil was the biggest player alone with a share of 50% (n=14) of all the participations in this topic which translated to 8.4% of its overall participation. All the other countries involved were either involved with a single participation (Guatemala and Mexico) or with two instances of participations each (Argentina, Chile, Costa Rica, Ecuador, Jamaica and Peru).

[31] In this report, the thematic areas: Health, demographic change and wellbeing will be referred to as “health”, food security, sustainable agriculture and forestry, marine/maritime/inland water research and the bioeconomy as “food”, Secure, clean & efficient energy as “energy”, smart, green & integrated transport as “transport”, climate action, environment, resource efficiency & raw materials as “environment”, inclusive, innovative & reflective societies as “society” and secure societies as “security”

With regards to the topic of energy, only two projects were implemented in the period under study with the involvement of three countries: Argentina, Mexico and Uruguay. The latter had only one participation comprising 20% of the participations in this area while the former two countries had two participations each, each comprising 40% of the share of participations in the thematic area of energy.

Similarly, there was relatively low interest in the thematic areas of transport and security. Each area was represented by just one project with the participation of a single CELAC country; for transport Brazil was the only CELAC participant and for security, Argentina.

7.1.1.2.4 Specific objective: 'Science with and for society'

The current Horizon 2020 work programme defines six topics under the specific objective of science with and for society: Public engagement in responsible research and innovation, responsible research and innovation, ethics, open science (open access), science education and promoting gender equality in research and innovation. From the 297 Horizon 2020 projects (2014-2019) looked at for the purpose of this report, projects fell into three categories: Integrate society in science and innovation, develop the governance for the advancement of responsible research and innovation and promote gender equality in research and innovation. The latter category, in its wording, is perfectly aligned to the last topic defined in the work programme whereas the two other topics touch on aspects of more than one of the topics defined.

There was one project in the area of promoting gender equality in research innovation with the participation of only Costa Rica. Four projects in total (with the participation of Bolivia n=1 and Brazil n=4), funded between 2016 and 2018 were classified under integrating society in science and innovation. Two of the projects specifically covered "supporting structural change in research organisations to promote Responsible Research and Innovation", one "participatory research and innovation via Science Shops" and the last "putting open science into action". From the specific titles of the calls applied for, these projects connect to the three topics defined in the current work programme; namely: Public engagement in responsible research and innovation, responsible research and innovation and open science (open access). Similarly, four projects (with the participation of Colombia n=2 and Brazil, Chile and Jamaica n=1 each) were funded under the theme "Develop the governance for the advancement of responsible research and innovation". One project each, covered the specific topics of: "Moving from constraints to openings, from red lines to new frames in Horizon 2020", "the Ethics of technologies with high socio-economic impact and Human Rights relevance", "new constellations of Changing Institutions and Actors" and "Responsible Research and Innovation (RRI) in support of sustainability and governance, taking account of the international context". From the wording of these specific topics again three topics defined in the work programme under the specific objective of science with and for society, are covered: "Public engagement in responsible research and innovation", "responsible research and innovation" and ethics. Taking this into consideration, all the topics defined under this specific objective in the current work programme have been covered by at least one with CELAC participation. The exception is the topic of "science education" which is not categorically indicated in any of the specific call topics that under which the projects were applied.

7.1.1.2.5 Euratom

To reiterate, Euratom is neither one of the three pillars or two specific objectives defined in the structure of Horizon 2020. Rather, it is an area which aims to feed the objectives of the three pillars of Horizon 2020. In this area a single project with CELAC participation was funded between December 2014 and May 2019 with the sole participation of Mexico in one instance.

Also worth noting is that the second specific objective of Horizon 2020 "spreading excellence and widening participation" has not been covered in this area of the report because CELAC countries are not eligible hence no projects were out rightly attributed to it in the dataset used in the analysis.

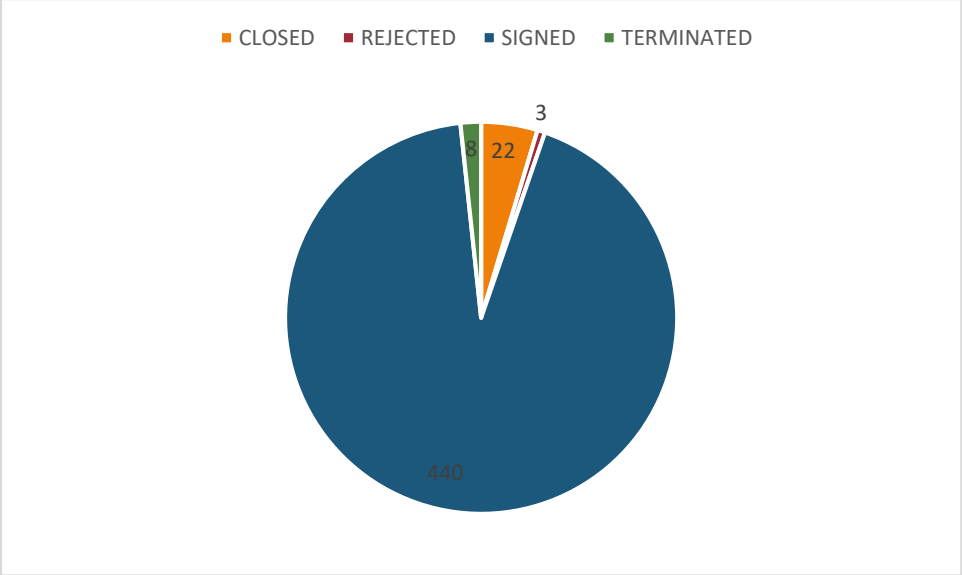
In the annexes a table will all the data representing this section of the report can be found. It included the countries (total participations and projects) and topics (number of projects per topic) and specifically the share of a certain country in a specific topic, the contribution of a certain topic to a country's engagement in Horizon 2020 (2014-2019).

7.1.2 Marie Skłodowska-Curie actions

7.1.2.1 Geographic clustering

From the dataset used for the analysis in this chapter, there were 7075 participants originating from either the EU Member States (n=5703) or CELAC countries (n=1372). To determine the relevant cases for analysis, the participants from these two regions that were either involved in exchanges within their respective regions e.g. Austrian participant taking part in an MSCA exchange programme in Greece or an Argentinian participant taking part in an MSCA exchange programme in Bolivia were filtered out of the dataset. So were the participants from these two regions that were involved in exchanges outside of the two regions i.e. in third countries. As a result, 1731 participants were retained in the dataset; 541 of them were from EU Member States and 1190 from CELAC countries. The dataset was further filtered according to the contract status. These 1731 participants had applied for MSCA actions in the framework of a total of 473 contracts. Three were "rejected", eight "terminated", 22 "closed" and 440 "signed" (Figure 25). For the purpose of analysis, this chapter will only take those contracts whose status is either "closed" or "signed" into consideration. This translates to 462 contracts involving 1720 participants from the EU (n=541) and CELAC (n=1179) taking part in an exchange in the two regions.

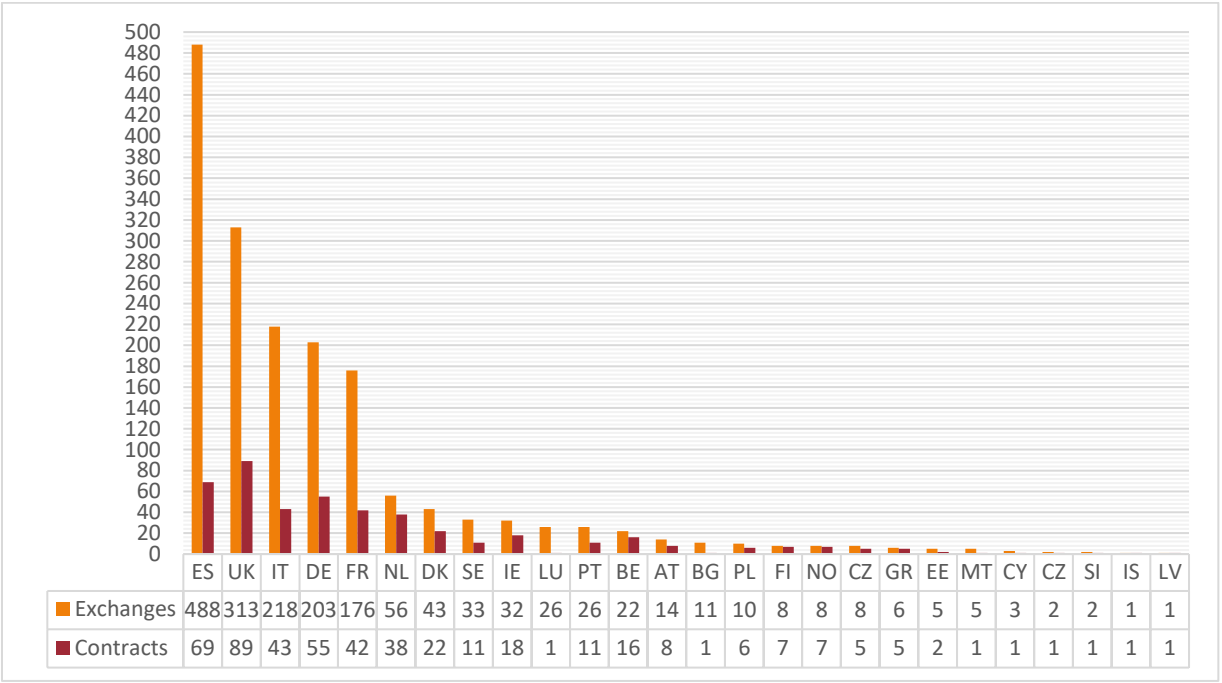
Figure 25: MSCA contracts (2014-2019) by status



The 462 contracts representing these exchanges were signed by all the EU Member States except: Croatia, Hungary, Lithuania, Romania and Slovakia as well as three third countries: Norway, Switzerland and Iceland. Figure 26 below shows the number of MSCA contracts each country signed and how many participants were involved. Interestingly as can be seen in Table 6

Table 15 below, Cyprus, Estonia, Latvia, Luxembourg and Malta were among the countries that did not send any of participants from their countries to CELAC countries, but at the same time countries that held some of the contracts that involved a number of the exchanges. This is true for Norway, Switzerland and Iceland which held MSCA contracts involving participants from both EU and CELAC countries, although they themselves are not part of the two regions under the microscope.

Figure 26: MSCA actions (2014-2019) with participants between EU and CELAC by coordinating country and number of projects



More than half of these participants (56.2%) regardless of whether they were from the EU (n=398) or from CELAC (569), visited at least one CELAC and one EU Member State (Table 13). Therefore, although in total 1179 participants from CELAC were involved, due to multiple exchanges by individual participants, the total number of exchanges for CELAC countries was 1327. For the EU Member States this was 581 (Table 16).

Table 13: Number of MSCA participants by number of visited countries

CELAC participants	
1 EU Member State	432
2 EU Member States	32
3 EU Member States	2
4 EU Member States	1
1 EU Member State & 1 CELAC country	569
1 EU Member State & 2 CELAC countries	1
1 EU Member State & 3 CELAC countries	1
1 EU Member State & 1 third country	26
1 EU Member State & 2 third countries	2
1 EU Member State & 1 CELAC country & 1 third country	8
1 EU Member State & 1 CELAC country & 2 third countries	1
2 EU Member States & 1 CELAC country	92
2 EU Member States & 2 CELAC countries	2
2 EU Member States & 1 third country	3
3 EU Member States & 1 CELAC country	6
3 EU Member States & 4 CELAC countries	1
Total	**1179**
EU participants	

1 CELAC country & 1 EU Member State	398
1 CELAC country & 2 EU Member States	36
1 CELAC country & 3 EU Member States	2
1 CELAC country & 1 third country	4
1 CELAC country & 2 third countries	1
1 CELAC country & 1 EU Member State & 1 third country	39
1 CELAC country & 1 EU Member State & 2 third countries	10
1 CELAC country & 1 EU Member State & 3 third countries	3
1 CELAC country & 2 EU Member States & 1 third country	8
1 CELAC country & 2 EU Member States & 2 third countries	2
2 CELAC countries & 1 EU Member State	31
2 CELAC countries & 2 EU Member States	2
2 CELAC countries & 2 EU Member States	1
2 CELAC countries & 1 EU Member State & 1 third country	1
2 CELAC countries & 1 EU Member State & 4 third countries	1
3 CELAC countries & 1 EU Member State	2
Total	**541**

Of the 33 CELAC countries, participants from 23 of the countries took part in MSCA actions that involved inter-regional exchange; that is from the EU to CELAC and vice versa. The countries that did not involve any participants in these actions include: Antigua & Barbuda, Bahamas, Belize, Dominica, Grenada, Haiti, Jamaica, St. Kitts & Nevis, St. Lucia and St. Vincent and the Grenadines. These are all the Caribbean states except for Barbados and the Dominican Republic. Argentina sent the most participants (about 31% or n=363) to EU countries for the MSCA exchange programme followed by Brazil (n=176), Colombia (n=174), Chile (n=145) and Mexico (n=114). The rest of the CELAC countries that participated in this programme, only involved 44 (Cuba) or less participants (

Table 14). Interestingly, although Argentina had the most participants in MSCA actions between EU and CELAC, the number of contracts that these participants were under, was lower than Brazil (n=136), Colombia (n=106) and Mexico (n=96)

Figure 27: Instances of participation of CELAC countries in MSCA actions (2014-2019) with exchanges taking places between the two regions (EU & CELAC) [Name of country; number of total participations; number of contracts]

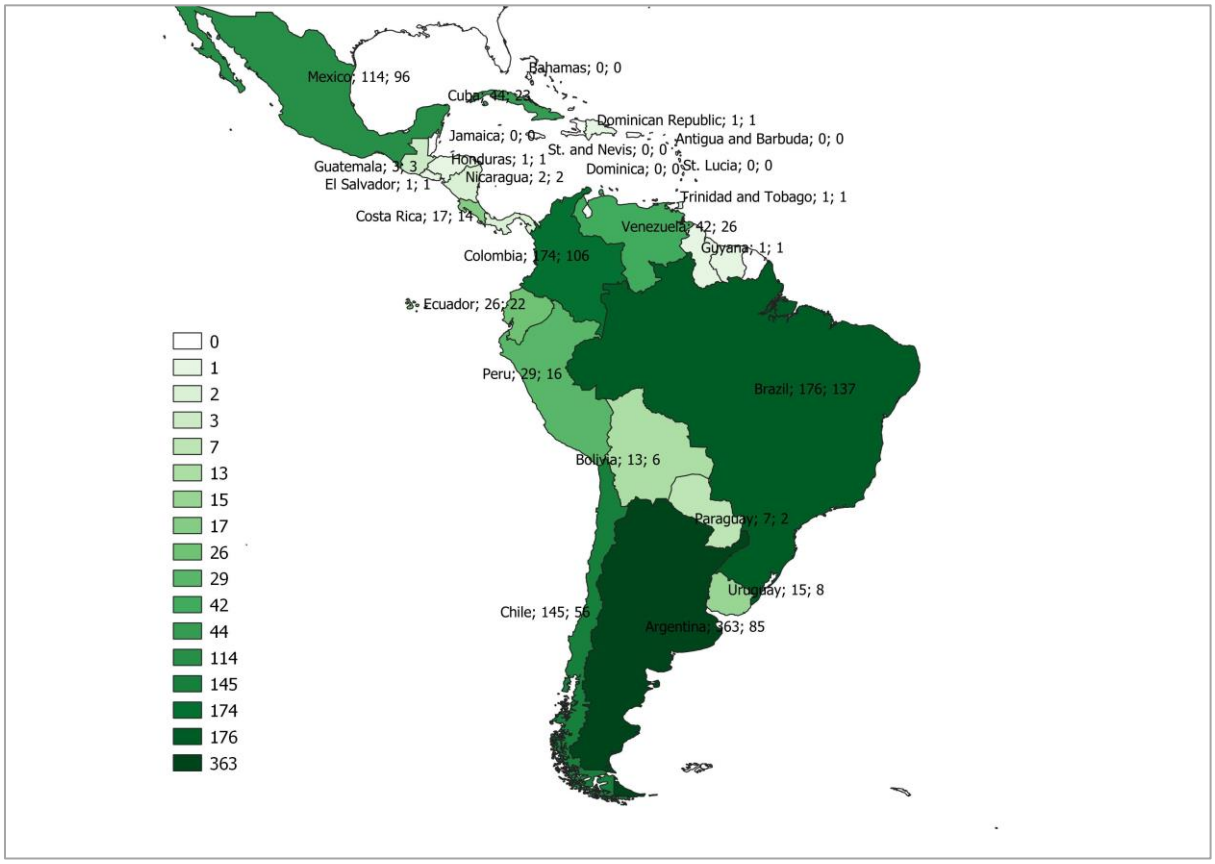


Table 14: CELAC countries by level of cooperation in MSCA actions (2014-2019)

Country	Participants	Contracts	
Antigua & Barbuda	0	0	No cooperation
Bahamas	0	0	
Belize	0	0	
Dominica	0	0	
Grenada	0	0	
Haiti	0	0	
Jamaica	0	0	
St. Kitts & Nevis	0	0	
St. Lucia	0	0	

St. Vincent and the Grenadines	0	0	
Barbados	1	1	Low cooperation
Dominican Republic	1	1	
El Salvador	1	1	
Guyana	1	1	
Honduras	1	1	
Suriname	1	1	
Trinidad and Tobago	1	1	
Nicaragua	2	2	Medium cooperation
Panama	2	2	
Guatemala	3	3	
Paraguay	7	2	
Bolivia	13	6	
Uruguay	15	8	High cooperation
Costa Rica	17	14	
Ecuador	26	22	
Peru	29	16	
Venezuela	42	26	
Cuba[32]	44	23	
Mexico	114	96	Very high cooperation
Chile	145	56	
Colombia	174	106	
Brazil	176	137	
Argentina	363	85	

Cyprus, Estonia, Latvia, Luxembourg, Malta and Slovakia were six EU Member States that did not send any participants to CELAC countries out of the 28 EU Member States (Figure 28). Most of the participants from the EU were from Spain (28.3% or n=153) followed by Italy (n=93), France (n=91), Germany (n=61) and the United Kingdom (n=39); all countries grouped under "very high cooperation" countries in MSCA actions. The rest of the countries sent between one and 19 persons to CELAC countries (

[32] According to the interquartile distribution, the number of participations for Cuba just warrant it to be categorised under "very high cooperation" countries (the threshold=44 participants), however the same distribution for the number of contracts, requires it to be classified under "high cooperation" countries (threshold=24.5). Due to the much higher numbers of participants and contracts belonging to the "very high cooperation" group, Cuba was grouped under "high cooperation" countries. All the rest of the classifications are based on the interquartile distribution of the number of participants and not the number of contracts.

Table 15).

Figure 28: Instances of participation of EU Member States in MSCA actions (2014-2019) with exchanges taking places between the two regions (EU & CELAC) [Name of country; number of total participations; number of contracts]

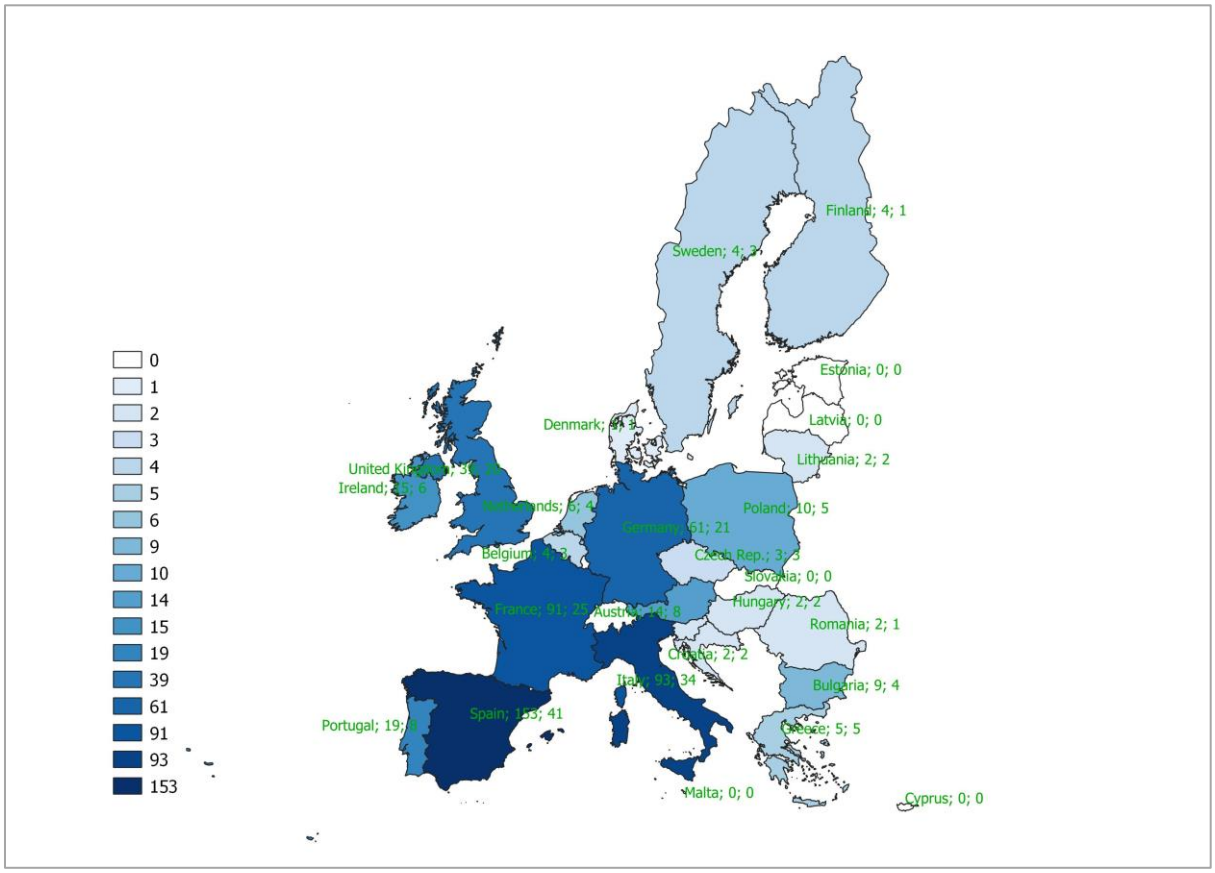


Table 15: EU Member States by level of cooperation in MSCA actions (2014-2019)

	Participants	**Contracts**	

Cyprus	0	0	No cooperation
Estonia	0	0	
Latvia	0	0	
Luxembourg	0	0	
Malta	0	0	
Slovakia	0	0	
Denmark	1	1	Low cooperation
Croatia	2	2	
Hungary	2	2	
Lithuania	2	2	
Romania	2	1	
Slovenia	2	2	
Czech Republic	3	3	Medium cooperation
Belgium	4	3	
Finland	4	1	
Sweden	4	3	
Greece	5	5	
Netherlands	6	4	
Bulgaria	9	4	High cooperation
Poland	10	5	
Austria	14	8	
Ireland	15	6	
Portugal[33]	19	8	
United Kingdom	39	20	Very high cooperation
Germany	61	21	
France	91	25	
Italy	93	34	
Spain	153	41	

In terms of receiving countries, 24 of the 28 EU Member States received participants from CELAC. Latvia, Lithuania, Malta and Slovakia did not receive any CELAC participants through MSCA actions (2014-2019). Worth noting is that Latvia, Malta and Slovakia neither sent to nor received participants from CELAC, Lithuania sent participants to CELAC countries but did not receive any CELAC participants while Cyprus, Estonia and Luxembourg did not send any participants to CELAC countries but received CELAC participants through MSCA actions between 2014 and 2019. The EU Member State that received the most CELAC participants through MSCA actions was Spain (n=365), followed by Germany (n=184), the United Kingdom (n=179), Italy (n=140) and France (n=133). Interestingly although in comparison,

[33] According to the interquartile distribution, the number of participations for Portugal just warrant it to be categorised under "very high cooperation" countries (the threshold=18 participants), however the same distribution for the number of contracts, requires it to be classified under "high cooperation" countries (threshold=18). Due to the relatively higher numbers of participants and contracts belonging to the "very high cooperation" group, Portugal was grouped under "high cooperation" countries. All the rest of the classifications are based on the interquartile distribution of the number of participants and not the number of contracts.

Netherlands sent relative few participants to CELAC countries, it received a relative high number of CELAC participants (n=69) (Table 16).

Table 16: MSCA actions (2014-2019): EU Member States as receiving countries and CELAC countries as sending countries

	Sending country																						
Receiving country	Argentina	Barbados	Bolivia	Brazil	Chile	Colombia	Costa Rica	Cuba	Dominican Republic	Ecuador	El Salvador	Guatemala	Guyana	Honduras	Mexico	Nicaragua	Panama	Paraguay	Peru	Suriname	Trinidad & Tobago	Uruguay	Venezuela	**Total**
Austria	8			8	1	6									9									32
Belgium	5			9	4	7		1		1					5		1		1	1			1	36
Bulgaria				2																				2
Croatia						2																	6	8
Cyprus															1									1
Czech Republic	3			1											1									5
Denmark	3		2	6	3	8									3				1				1	27
Estonia						1									1									2
Finland	4			2	8	1																		15
France	40		1	23	11	16		6		5		1			22				3			2	3	133
Germany	32		1	41	28	36	5	5		4					20		1		2			4	5	184
Greece	3				3	1	3																	10
Hungary	2				1					1														4
Ireland	7			4	3	1		1							4				1				1	22
Italy	62			19	10	9	2	17		2		1	1		6	1		4	4				2	140
Lithuania																								0
Luxembourg	6			1																				7
Netherlands	10			15	8	12	2	5	1	5					5				2			2	2	69
Poland	1					4									1			2						8
Portugal	4		1	11	6	3				1					1				4					31
Romania				1		11																		12
Slovenia					1	1									2									4
Spain	161		7	22	57	48	4	10		3	1	1			26	1		1	4			6	13	365
Sweden	5			5	3	7	1	2						1	6				1					31
United Kingdom	60	1	2	27	23	21		3		4					13				9		1	1	14	179
Total	416	1	14	197	170	195	17	50	1	26	1	3	1	1	126	2	2	7	32	1	1	15	48	1327

CELAC countries as recipients of participants from EU Member State was to a much lower level, which is also suggested by the numbers of EU participants involved in MSCA actions in total in the period under study. Only 14 of the 33 CELAC countries received participants from EU Member States: Argentina, Bolivia, Brazil, Chile, Colombia, Costa Rica, Cuba, Ecuador, Jamaica, Mexico, Paraguay, Peru, Uruguay and Venezuela. Argentina (n=181) received the most participants from the EU Member States in the framework of MSCA actions (2014-2019) followed by Brazil (n=162) and Chile (n=115). All the CELAC countries ranked as "very high cooperation" or "high cooperation" in terms of the number of participants in MSCA actions (see Table 16 above), not only sent participants to EU Member States in this framework, but also received participants from EU Member States. Of the five "medium cooperation" countries, only Bolivia and Venezuela also received participants from the EU. Although the other members of this group: Guatemala, Panama and Nicaragua sent participants to EU Member States, they did not host any participants from the EU. All CELAC "low cooperation" countries in MSCA actions (Trinidad and Tobago, Suriname, Honduras, Guyana, El Salvador, Dominican Republic and Barbados) all sent one participant each to a EU Member State but did not host any EU participants. From the "no cooperation" countries; i.e. those countries that did not send participants to the EU through MSCA actions, Jamaica was the only one to host a participant from the EU.

Table 17: MSCA actions (2014-2019): CELAC as receiving countries and EU Member States as sending countries

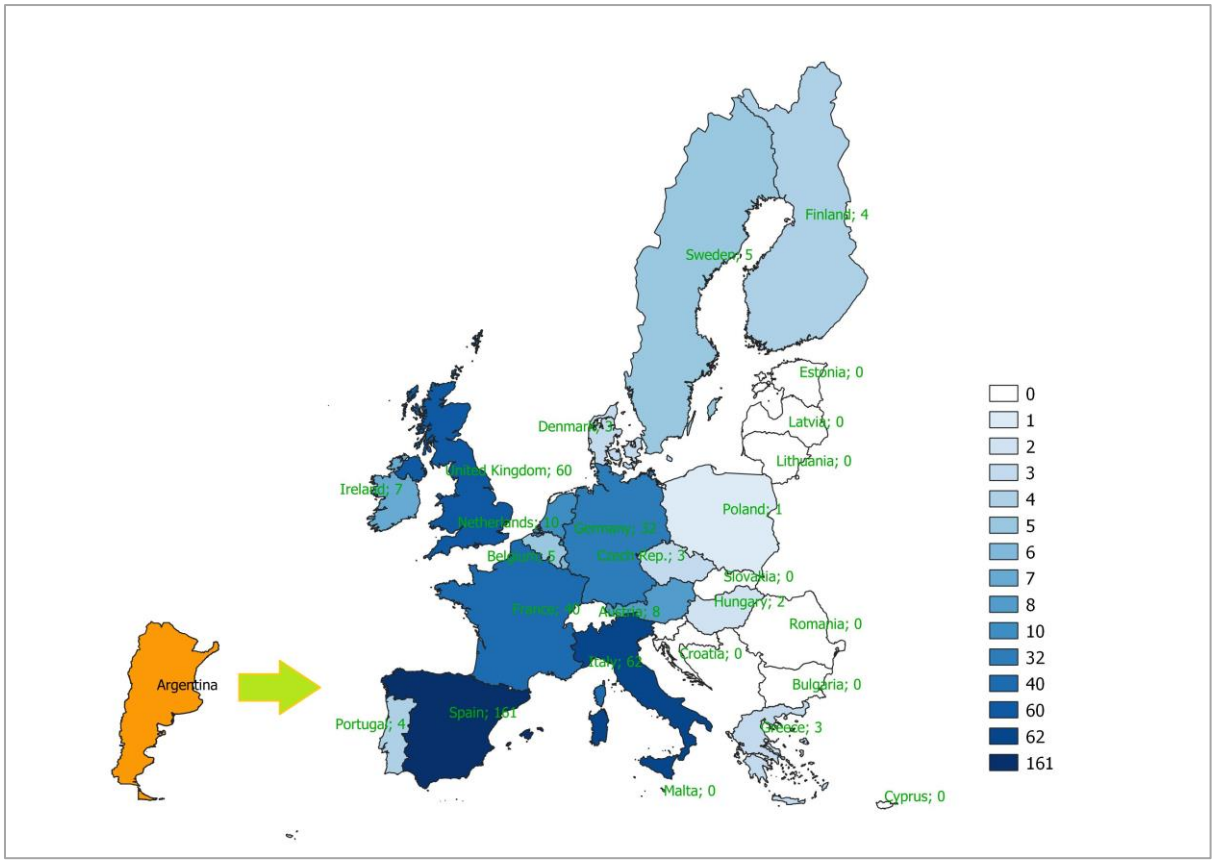
	Sending country																						**Total**
Receiving country	Austria	Belgium	Bulgaria	Croatia	Czech Republic	Denmark	Finland	France	Germany	Greece	Hungary	Ireland	Italy	Lithuania	Netherlands	Poland	Portugal	Romania	Slovenia	Spain	Sweden	United Kingdom	
Argentina	3	1			1		3	19	9	2		4	45	1	2	2	1			71	2	15	181
Bolivia					1			1	1				1	1						1			6
Brazil	3		7	1		1		54	29	2	1	3	11				14	2	1	20		13	162
Chile	2	3	3			1	1	8	6	1		6	14		4		3		1	52	2	8	115
Colombia	1			1					4			2	1			4				7		3	23
Costa Rica									5	1		1	5			1	2			5		1	21
Cuba	1				1			2					7							2			13
Ecuador									1		1		2							1			5
Jamaica																						1	1
Mexico	5							5	7		1		7			1				11			37
Paraguay													1			2							3
Peru								2	1											5		1	9
Uruguay									1											3			4
Venezuela																						1	1
Total	15	4	10	2	3	2	4	91	64	6	3	16	94	2	6	10	20	2	2	178	4	43	581

The section below will delve into the sending and receiving patterns of the seven selected CELAC countries:

Argentina:

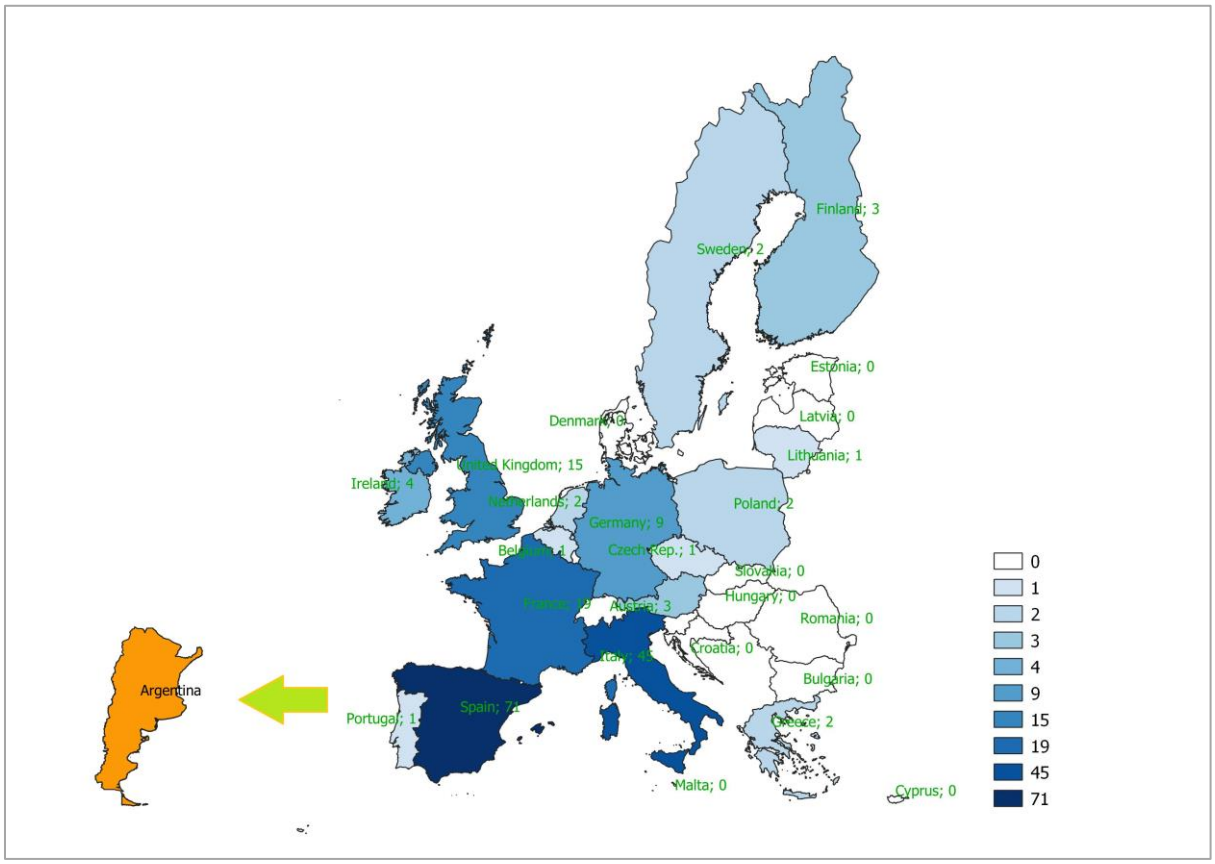
Spain was the main hosting EU Member State for Argentinian participants in MSCA actions. Of the 416 exchanges that took place with participants from Argentina to the EU, those with Spain accounted for 38.7% (n=161). Italy and the United Kingdom were the next most important EU Member State for Argentinian participants in MSCA actions with 62 and 60 actions respectively (Figure 29).

Figure 29: EU member States that hosted Argentinian participants in the framework of MSCA actions (2014-2019) [Name of host country; number of exchanges with Argentina]



In total, there were 181 exchanges that took place between EU Member States and Argentina in the framework of MSCA actions (2014-2019), with Argentina as the destination country. Most of the participants that visited Argentina were from Spain (n=71) followed by Italian participants (n=45) and participants from France (n=19) and the United Kingdom (n=15).

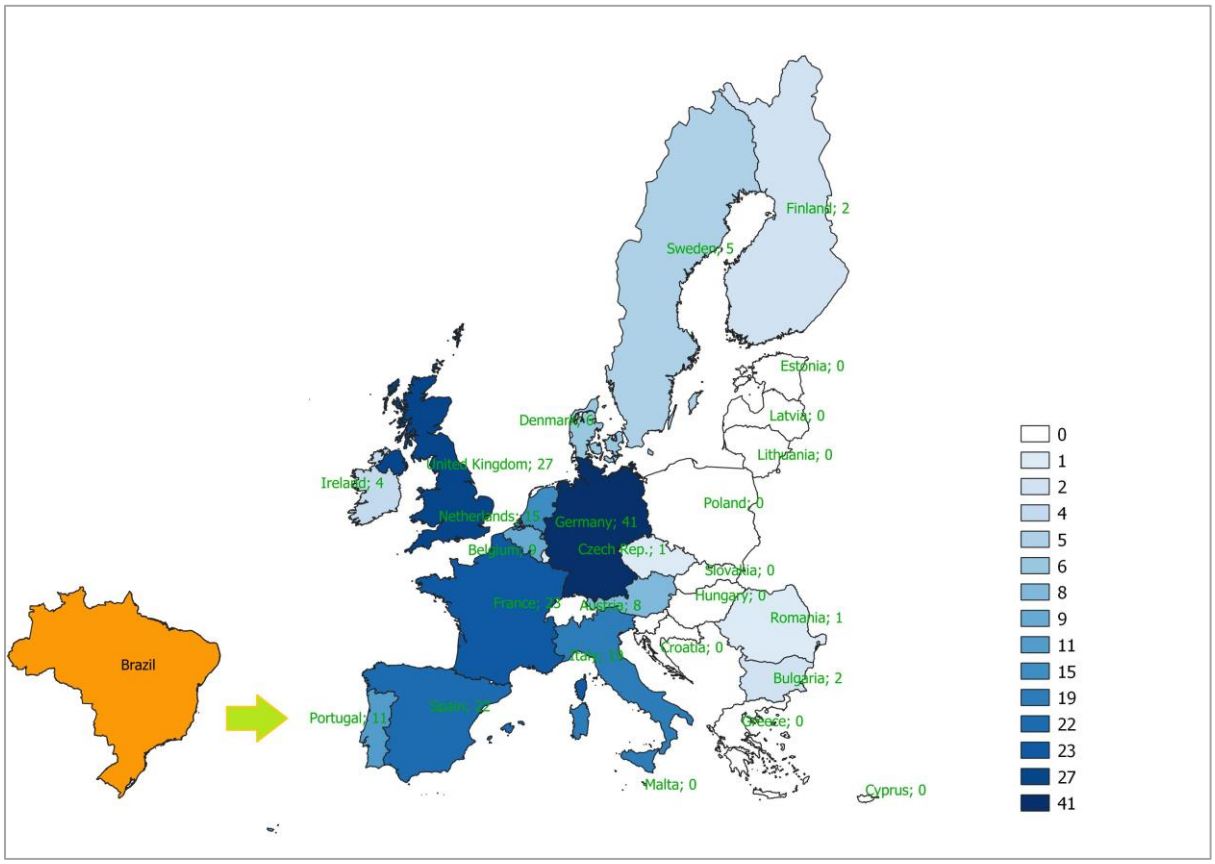
Figure 30: Participants from the EU member States that were hosted by Argentina in the framework of MSCA actions (2014-2019) [Name of sending country; number of exchanges with Argentina]



Brazil:

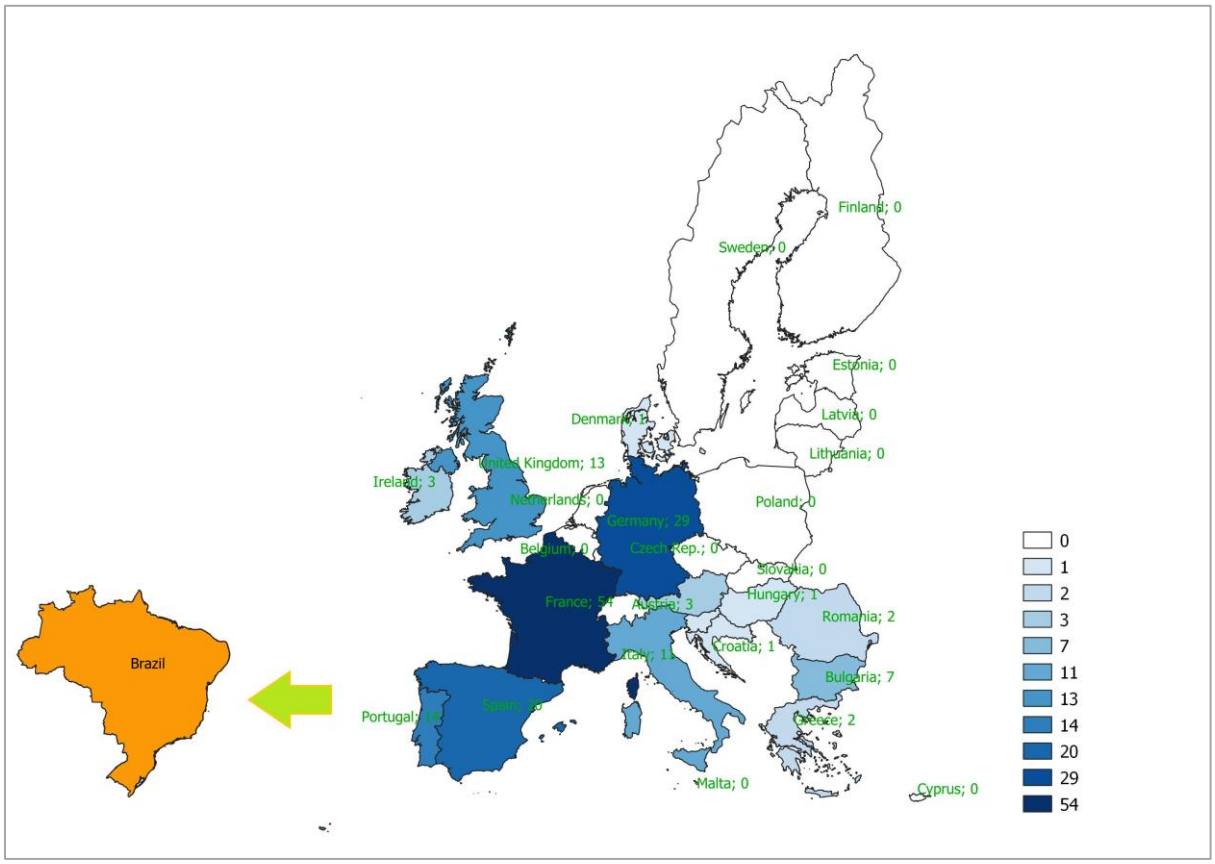
There were 176 participants from Brazil who visited EU Member States within MSCA actions between 2014 and 2019. As some of the participants visited more than one EU Member State, the total number of "sending exchanges was 197. Of the 28 EU Member States, Brazilian participants visited 17 of the countries within this programmes. The 11 countries that was not a destination country for Brazilian participants in MSCA actions were other than Latvia, Malta and Slovakia that neither sent participants to CELAC countries nor received participants from CELAC countries within this framework: Croatia, Cyprus, Estonia, Greece, Hungary, Lithuania, Poland and Slovenia. Germany (n=41) was by far the most important destination country for Brazilian participants in this programme, followed by the United Kingdom (n=27), France (n=23), Spain (n=22), Italy (n=19), the Netherlands (n=15) and Portugal (n=11). All the other EU Member States that received Brazilian participants received between one and nine Brazilian participants during the studied period (Figure 31).

Figure 31: EU member States that hosted Brazilian participants in the framework of MSCA actions (2014-2019) [Name of host country; number of exchanges with Brazil]



There was a total of 162 exchanges between the EU Member States and Brazil as a destination country in MSCA actions (2014-2019). Other than Latvia, Malta and Slovakia that neither sent participants to nor received participants from CELAC countries and Cyprus, Estonia and Luxembourg which hosted some participants from CELAC countries but did not send any of their participants to CELAC countries as part of MSCA actions during this period, Belgium, the Czech Republic, Finland, Lithuania, the Netherlands, Poland and Sweden additionally did not send any participants to Brazil in particular. From the remaining 13 EU Member States that sent at least one participant to Brazil, France was the most important partner for Brazil in this sense. It sent 59 participants in total through MSCA actions (2014-2019). Germany was the next important partner with 29 participants followed by Spain (n=20), Portugal (n=14), the United Kingdom (n=13) and Italy (n=11). The other nine EU Member States sent between one and seven participants to Brazil (Figure 32).

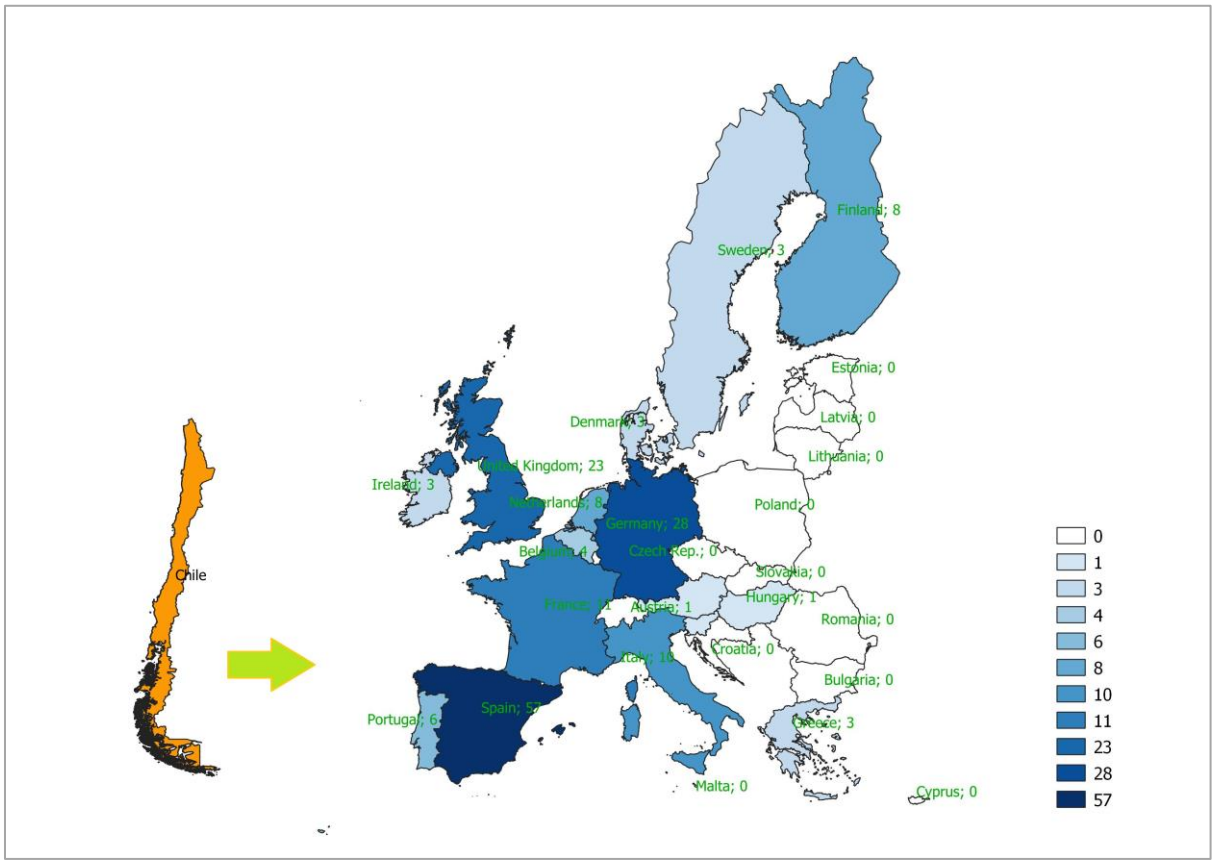
Figure 32: Participants from the EU member States that were hosted by Brazil in the framework of MSCA actions (2014-2019) [Name of sending country; number of exchanges with Brazil]



Chile:

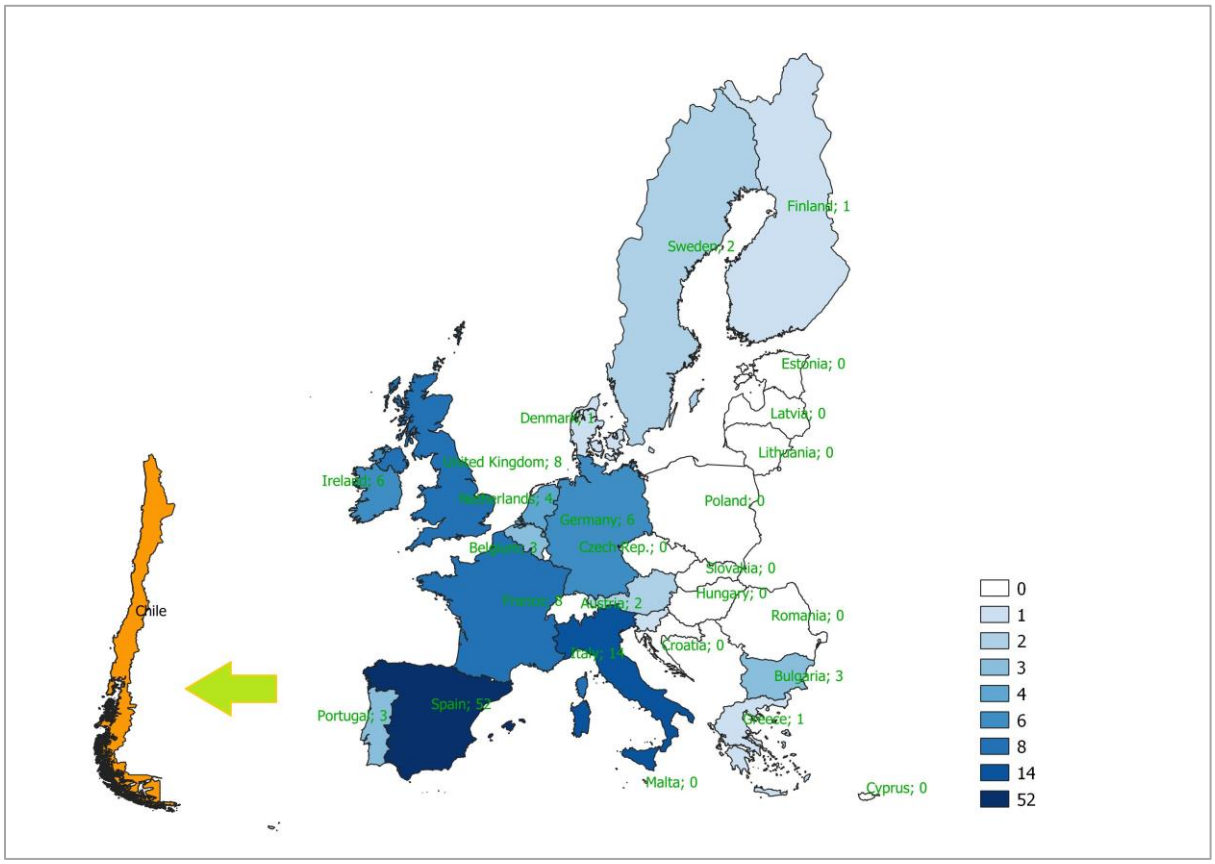
From the 162 participants from Chile that visited EU Member States as part of MSCA actions between 2014-2019, there were a total of 170 exchanges as some participants visited more than one EU country. However, only 16 of the 28 EU Member States were visited by Chilean participants. Spain (n=57) was the most important destination country for Chilean participants, followed by Germany (n=28), the United Kingdom (n=23), France (n=11), Italy (n=10), Finland and the Netherlands (n=8 each), Portugal (n=6), Belgium (n=4), Denmark, Greece, Ireland and Sweden (n=3 each) and Austria, Hungary and Slovenia (n=1 each). Other than Latvia, Malta and Slovakia that did not receive participants to any of the CELAC countries, Bulgaria, Croatia, Cyprus, the Czech Republic, Estonia, Lithuania, Luxembourg, Poland and Romania did not specifically host Chilean participants (Figure 33).

Figure 33: EU member States that hosted Chilean participants in the framework of MSCA actions (2014-2019) [Name of host country; number of exchanges with Chile]



Chile hosted 115 visits from the EU Member States in the framework of MSCA actions (2014-2019). The overwhelming majority of the visitors, more than half (57.4% or n=66) were from Spain (n=52) and Italy (n=14). All the other 14 EU Member States that sent participants to Chile had between one and 8 exchanges: France and the United Kingdom (n=8 each), Germany and Ireland (n=6 each), the Netherlands (n=4), Belgium, Bulgaria and Portugal (n=3 each), Austria and Sweden (n=2 each) and Denmark, Finland, Greece and Slovenia (n=1 each). Other than the six EU Member States that did not send participants to any CELAC countries (Cyprus, Estonia, Latvia, Luxembourg, Malta and Slovakia), Croatia, the Czech Republic, Hungary, Lithuania, Poland and Romania additionally did not send any participants specifically to Chile (Figure 34).

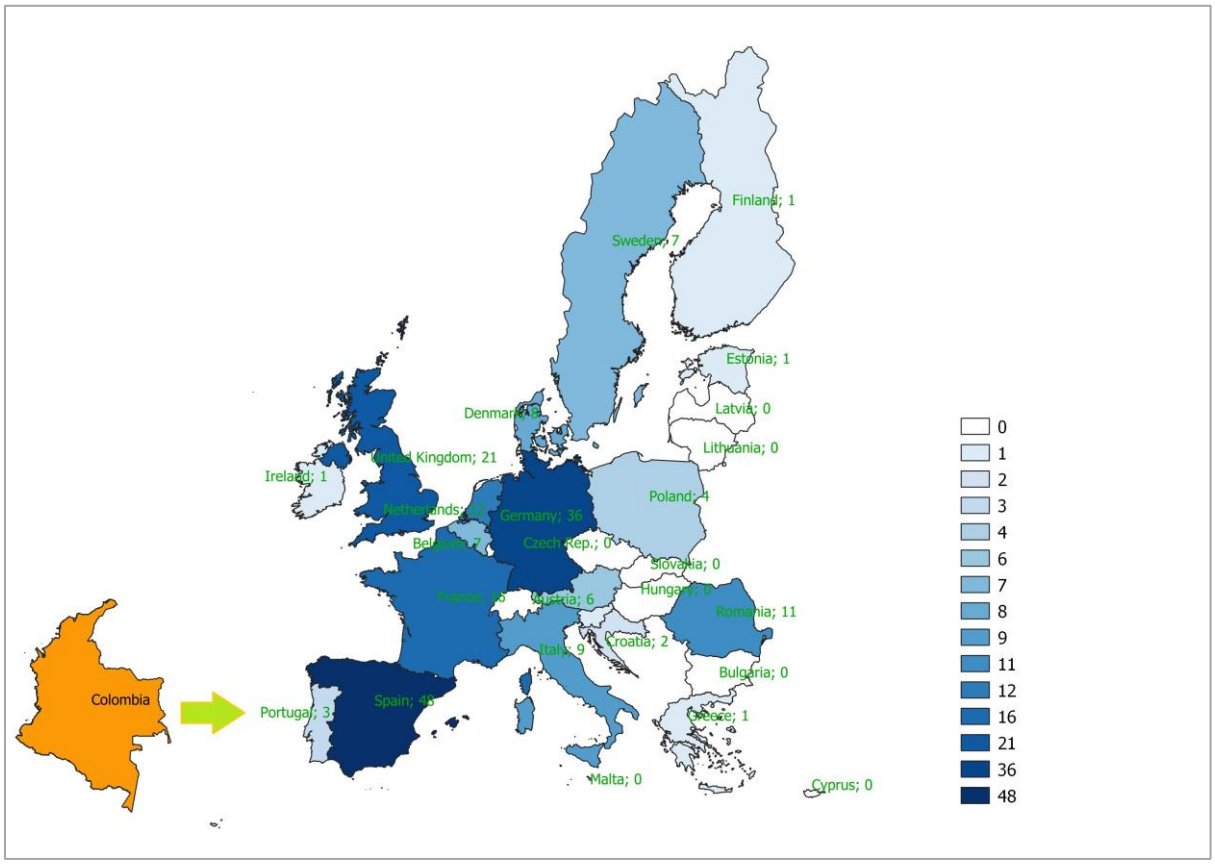
Figure 34: Participants from the EU member States that were hosted by Chile in the framework of MSCA actions (2014-2019) [Name of sending country; number of exchanges with Chile]



Colombia:

195 exchanges involving 174 Colombian participants took place between Colombia and the EU Member States as hosts in MSCA actions (2014-2019). Additionally, to Latvia, Malta and Slovakia that did not send or receive any participants from CELAC countries, Bulgaria, Cyprus, the Czech Republic, Hungary, Lithuania and Luxembourg were not destination countries for Colombian participants in this programme. The most important destination country for Colombia was Spain (n=48), then Germany (n=36), the United Kingdom (n=21), France (n=16), the Netherlands (n=12) and Romania (n=11) (Figure 35). The remaining 13 EU Member States had between one and nine exchanges with Colombian participants. In comparison to Argentina, Brazil and Chile discussed preciously, it is interesting to note that Romania was a meaningful destination country for Colombia than the other three countries. Only one Brazilian participant was hosted by Romania while Romania did not host any participants from Argentina and Chile.

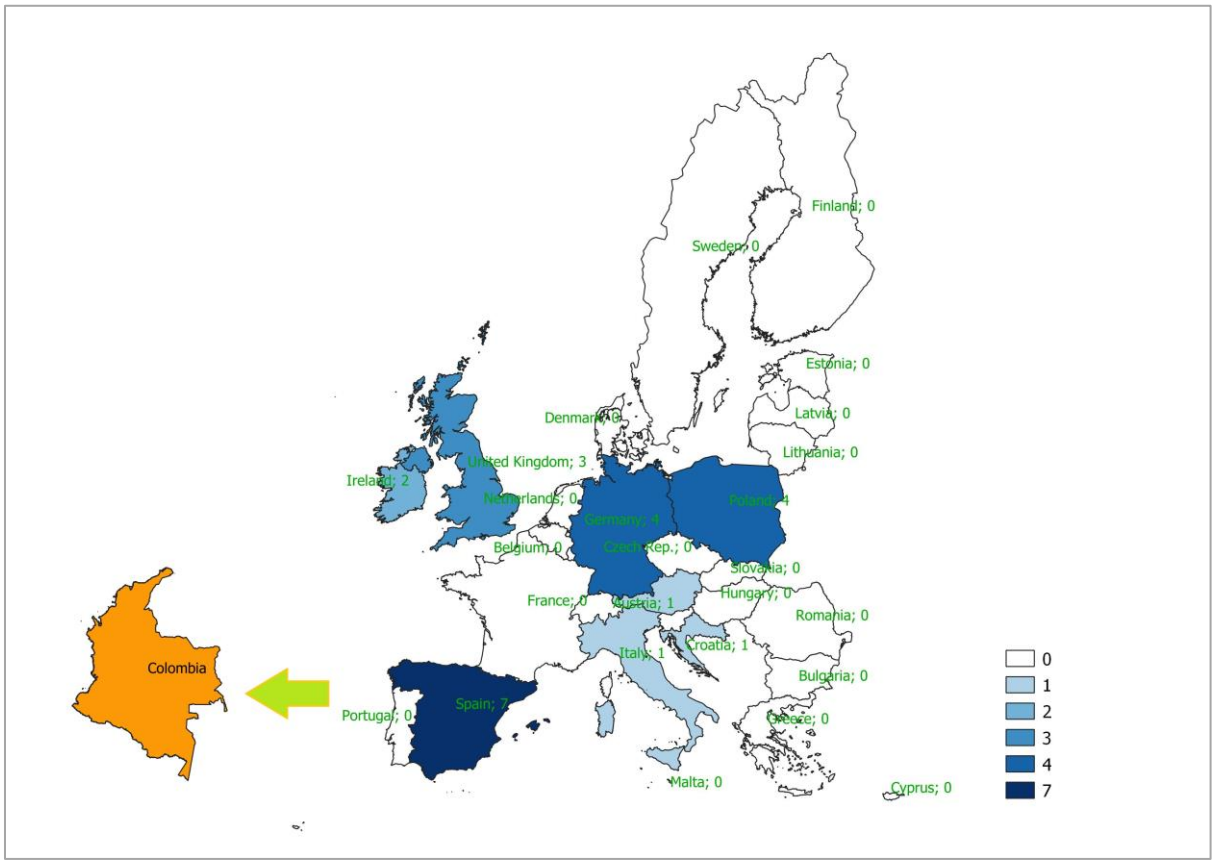
Figure 35: EU member States that hosted Colombian participants in the framework of MSCA actions (2014-2019) [Name of host country; number of exchanges with Colombia]



The proportion of the number of participants from Colombia send to EU Member States (n=195) and the proportion of participants from EU Member States hosted by Colombia (n=23) in comparison to Argentina, Brazil and Chile discussed above is considerably lower. Argentina hosted in comparison 181 exchanges from the EU, Brazil 162 and Chile 115.

In terms of the EU Member States that sent participants to Colombia within the framework of the MSCA actions (2014-2019), only eight of the 28 EU Member States did this: Spain (n=7), Germany and Poland (n=4 each), the United Kingdom (n=3), Ireland (n=2) and Austria, Croatia and Italy (n=1 each) (Figure 36). Despite these low numbers, of the three selected countries described in detail previously, Poland sent the most participants to Colombia (n=4) in comparison (Argentina=2 and Brazil and Chile=none).

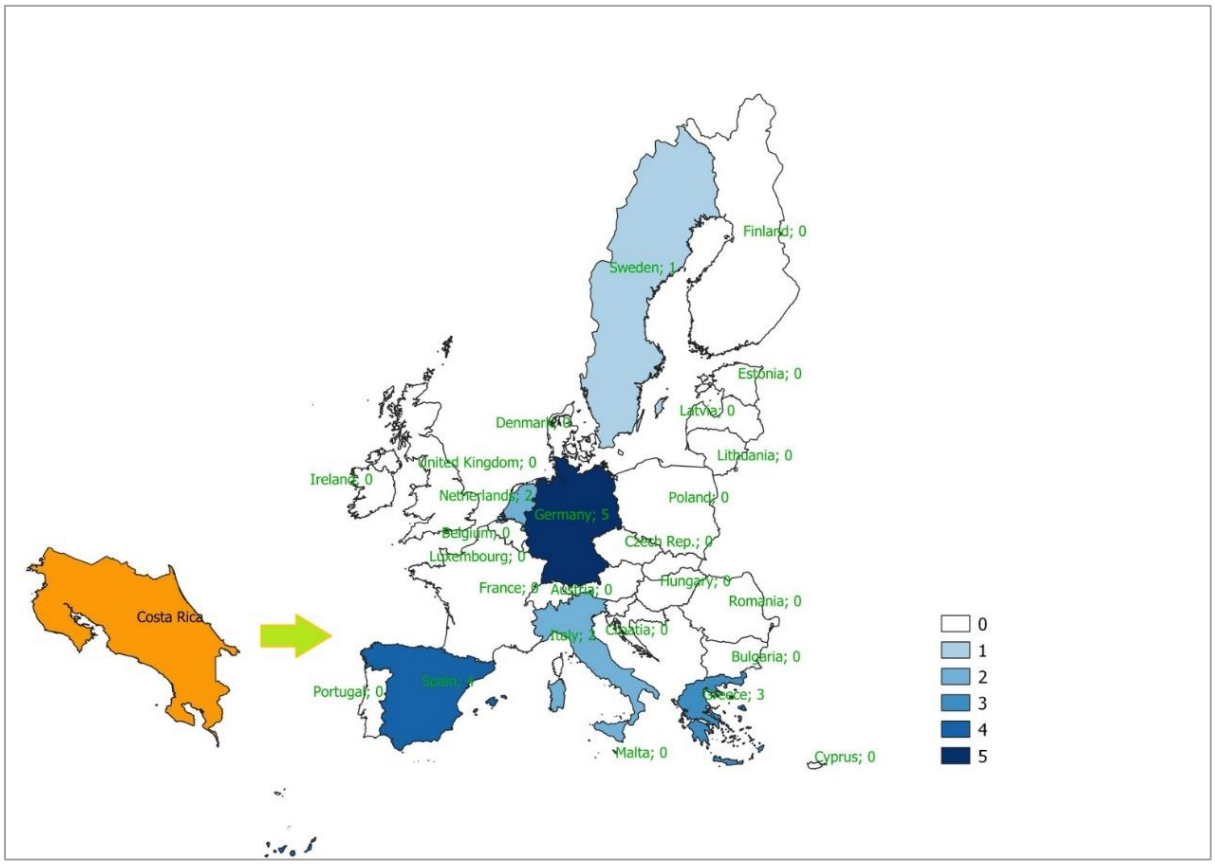
Figure 36: Participants from the EU member States that were hosted by Colombia in the framework of MSCA actions (2014-2019) [Name of sending country; number of exchanges with Colombia]



Costa Rica:

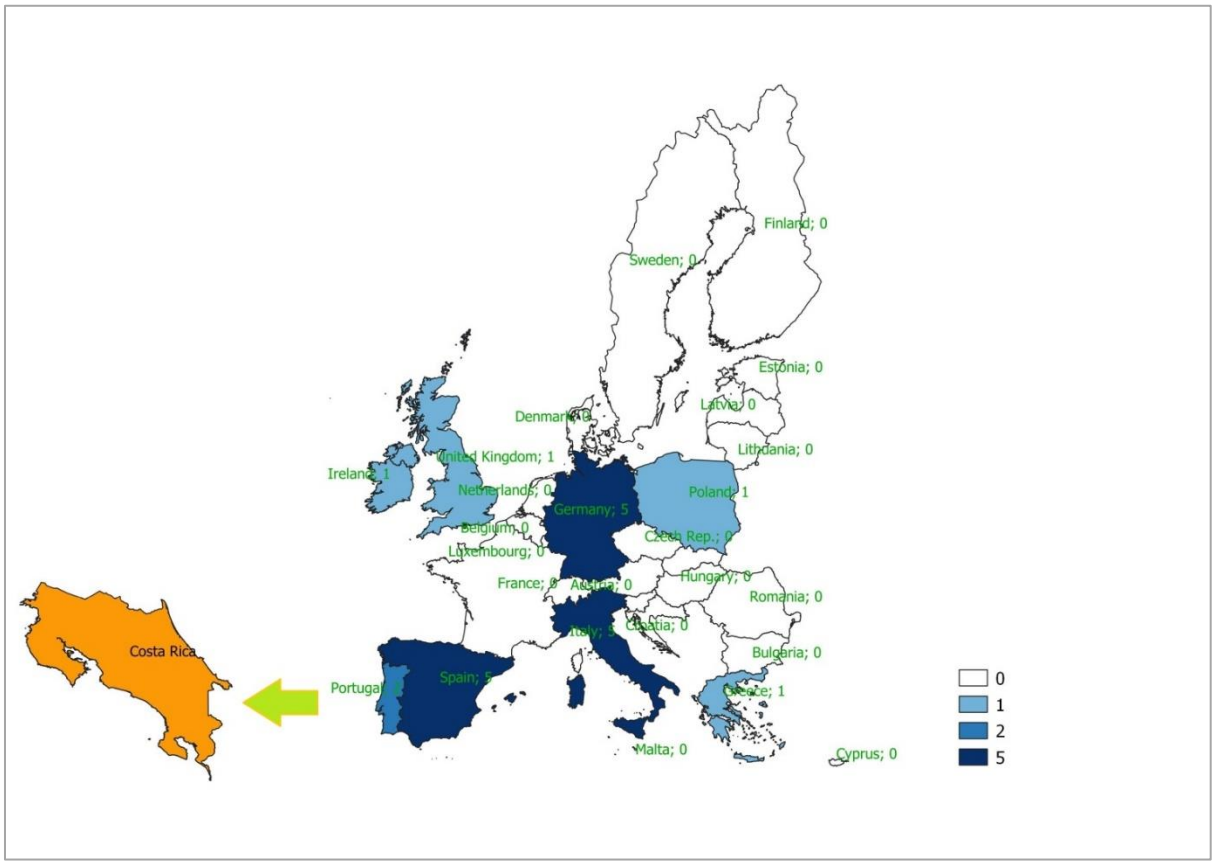
17 participants from Costa Rica participated in MSCA actions (2014-2019). Each of them visited a single EU Member State; as the number of exchanges is equal to that of number of participants. In total, they visited six EU Member States: Germany (n=5), Spain (n=4), Greece (n=3), Italy and the Netherlands (n=2) and Sweden (n=1) (Figure 37). Despite the low number of participants from Costa Rica that took part in this programme, the connection between Costa Rica and Greece as a destination country is worth mentioning. From the selected countries, Costa Rica, Chile and Argentina had the most number of exchanges with Greece (as a hosting country); namely, three. Colombia had only one exchange with Greece and Brazil none.

Figure 37: EU member States that hosted Costa Rican participants in the framework of MSCA actions (2014-2019) [Name of host country; number of exchanges with Costa Rica]



In comparison to the other selected CELAC countries described previously in this section of the report, Costa Rica is the only country that had more exchanges as a hosting country (n=21) than a sending country (n=17). Eight EU Member States sent participants to Costa Rica over the MSCA actions (2014-2019): Germany, Italy and Spain (n=5 each), Portugal (n=2) and Greece, Ireland, Poland and the United Kingdom (n=1)(Figure 38).

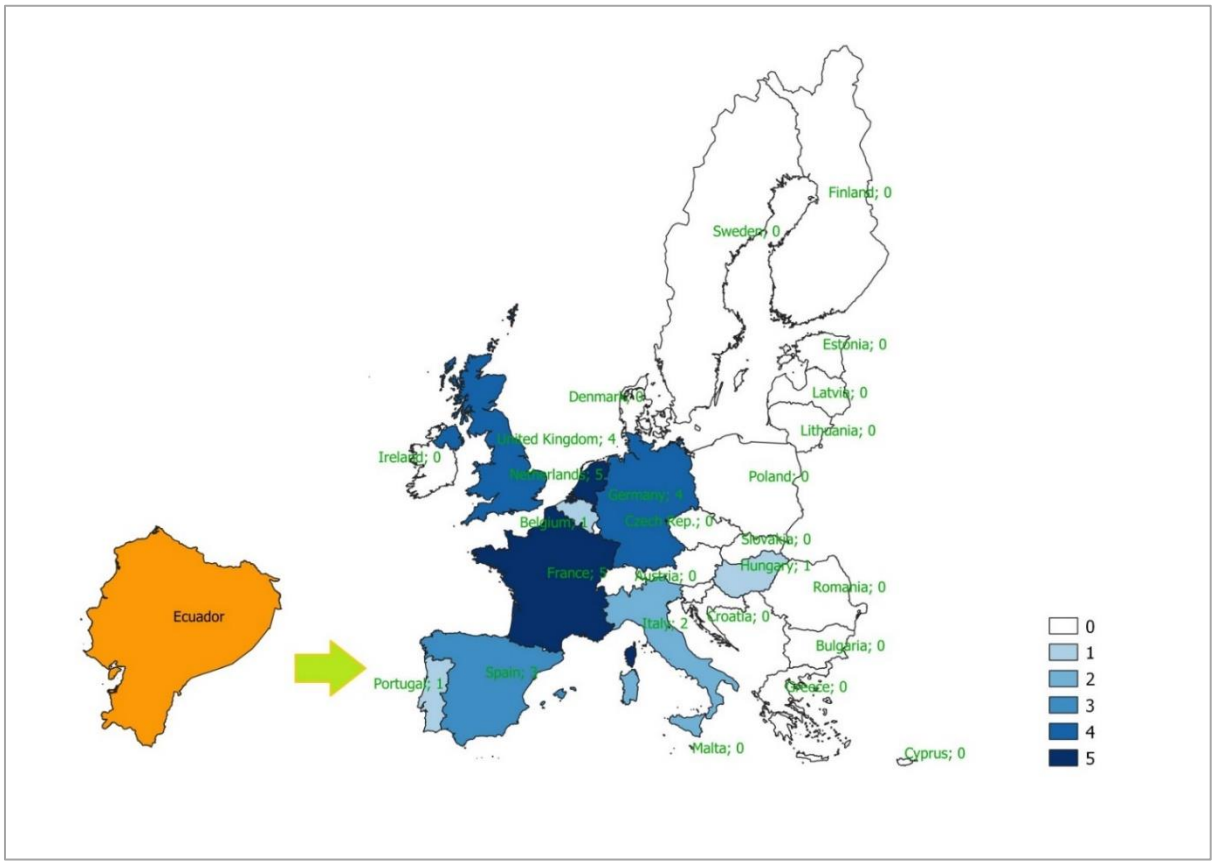
Figure 38: Participants from the EU member States that were hosted by Costa Rica in the framework of MSCA actions (2014-2019) [Name of sending country; number of exchanges with Costa Rica]



Ecuador:

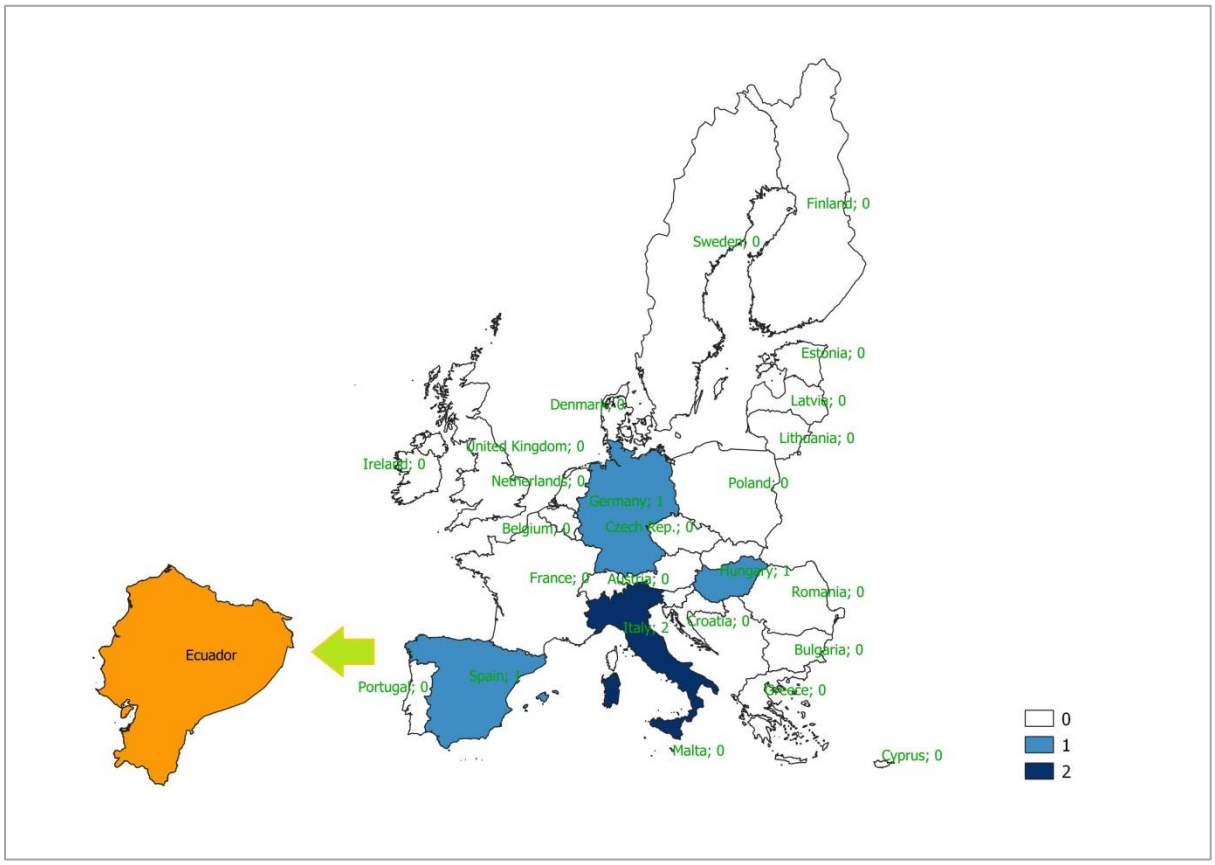
Like Costa Rica, Ecuador had the same number of participants and exchanges meaning that each Ecuadorian participant only visited a single EU Member State (n=26) within MSCA actions (2014-2019). These countries were: France and the Netherlands (n=5 each), Germany and the United Kingdom (n=4 each), Spain (n=3), Italy (n=2) and Belgium, Hungary and Portugal (n=1 each).

Figure 39: EU member States that hosted Ecuadorian participants in the framework of MSCA actions (2014-2019) [Name of host country; number of exchanges with Ecuador]



Only five exchanges involving four EU Member States took place with Ecuador as the receiving country in MSCA actions (2014-2019): Italy (n=2) and Germany, Hungary and Spain (n=1 each).

Figure 40: Participants from the EU member States that were hosted by Ecuador in the framework of MSCA actions (2014-2019) [Name of sending country; number of exchanges with Ecuador]



Jamaica:

Unlike the other selected CELAC selected countries discussed above, Jamaica was very weakly involved in MSCA actions (2014-2019) with EU counterparts. It sent no participants to EU Member States during the studied period; however, it hosted a single participant from the United Kingdom.

The tables below show the exact data for the selected CELAC countries with regard to their involvement in MSCA actions either as sending or receiving countries.

Table 18: Host EU Member States for the seven selected CELAC countries in MSCA (2014-2019)

	Argentina (participants=363; total sent=416)	**Brazil (participants=176; total sent=197)**	**Chile (participants=145; total sent=170)**	**Colombia (participants=174; total sent=195)**	**Cost Rica (participants=17; total sent=17)**	**Ecuador (participants=26; total sent=26)**	**Jamaica (participants=0; total sent=0)**
Austria	8	8	1	6	0	0	0
Belgium	5	9	4	7	0	1	0
Bulgaria	0	2	0	0	0	0	0
Croatia	0	0	0	2	0	0	0
Cyprus	0	0	0	0	0	0	0
Czech Republic	3	1	0	0	0	0	0
Denmark	3	6	3	8	0	0	0
Estonia	0	0	0	1	0	0	0
Finland	4	2	8	1	0	0	0
France	40	23	11	16	0	5	0
Germany	32	41	28	36	5	4	0
Greece	3	0	3	1	3	0	0
Hungary	2	0	1	0	0	1	0
Ireland	7	4	3	1	0	0	0
Italy	62	19	10	9	2	2	0
Latvia	0	0	0	0	0	0	0
Lithuania	0	0	0	0	0	0	0
Luxembourg	6	1	0	0	0	0	0
Malta	0	0	0	0	0	0	0
Netherlands	10	15	8	12	2	5	0
Poland	1	0	0	4	0	0	0
Portugal	4	11	6	3	0	1	0
Romania	0	1	0	11	0	0	0
Slovakia	0	0	0	0	0	0	0
Slovenia	0	0	1	1	0	0	0
Spain	161	22	57	48	4	3	0
Sweden	5	5	3	7	1	0	0
United Kingdom	60	27	23	21	0	4	0

Table 19: EU Member States hosted by the selected CELAC countries in MSCA actions (2014-2019)

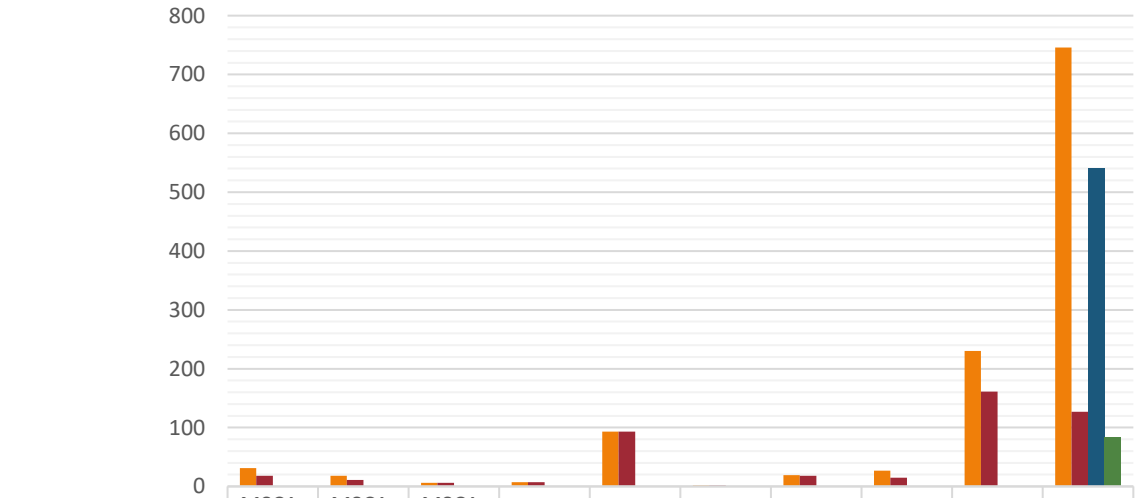
	Argentina (total received=416)	Brazil (total received=162)	Chile (total received=115)	Colombia (total received=23)	Costa Rica (total received=21)	Ecuador (total received=5)	Jamaica (total received=1)
Austria	3	3	2	1	0	0	0
Belgium	1	0	3	0	0	0	0
Bulgaria	0	7	3	0	0	0	0
Croatia	0	1	0	1	0	0	0
Cyprus	0	0	0	0	0	0	0
Czech Republic	1	0	0	0	0	0	0
Denmark	0	1	1	0	0	0	0
Estonia	0	0	0	0	0	0	0
Finland	3	0	1	0	0	0	0
France	19	54	8	0	0	0	0
Germany	9	29	6	4	5	1	0
Greece	2	2	1	0	1	0	0
Hungary	0	1	0	0	0	1	0
Ireland	4	3	6	2	1	0	0
Italy	45	11	14	1	5	2	0
Latvia	0	0	0	0	0	0	0
Lithuania	1	0	0	0	0	0	0
Luxembourg	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0
Netherlands	2	0	4	0	0	0	0
Poland	2	0	0	4	1	0	0
Portugal	1	14	3	0	2	0	0
Romania	0	2	0	0	0	0	0
Slovakia	0	0	0	0	0	0	0
Slovenia	0	1	1	0	0	0	0
Spain	71	20	52	7	5	1	0
Sweden	2	0	2	0	0	0	0
United Kingdom	15	13	8	3	1	0	1

7.1.2.2 *Thematic clustering*

These exchanges took place in the framework of 10 MSCA action types: MSCA-COFUND-DP (contracts=18; participants=31), MSCA-COFUND-FP (contracts=11; participants=18), MSCA-IF-EF-CAR (contracts=6; participants=6), MSCA-IF-EF-SE (contracts=7; participants=7), MSCA-IF-EF-ST (contracts=93; participants=93), MSCA-IF-GF (contracts=2; participants=2), MSCA-ITN-EID (contracts=18; participants=19), MSCA-ITN-EJD (contracts=15; participants=27), MSCA-ITN-ETN (contracts=161; participants=230) and MSCA-RISE (contracts=131; participants=1287).

Whereas the participants from CELAC countries were distributed all across the 10 MSCA actions types, those from the EU were only involved MSCA-RISE action. (Figure 41).

Figure 41: Marie Skłodowska-Curie actions with participants from the EU and CELAC taking part in exchanges in both regions by action type and region with regard to number of participants and contracts



	MSCA-COFUND-DP	MSCA-COFUND-FP	MSCA-IF-EF-CAR	MSCA-IF-EF-SE	MSCA-IF-EF-ST	MSCA-IF-GF	MSCA-ITN-EID	MSCA-ITN-EJD	MSCA-ITN-ETN	MSCA-RISE
CELAC: Participants	31	18	6	7	93	2	19	27	230	746
CELAC: Contracts	18	11	6	7	93	2	18	15	161	127
EU: Participants	0	0	0	0	0	0	0	0	0	541
EU: Contracts	0	0	0	0	0	0	0	0	0	84

7.2 ERASMUS+

Aside of the framework programmes and the ERC, the most prominent mobility scheme between the two regions is the Erasmus+ programme, which was established in 2014 as a successor of the Erasmus Mundus programme and also includes the programmes Tempus, Alfa, Edulink and the programme for co-operation with industrialised countries. Under the direct predecessor Erasmus Mundus (2007-2013), and with an EU contribution of 95.6 million Erasmus+ financed53 EU-LAC partnerships and allowed 6650 students and academics to take part in the mobility programme, 21% of them Master students, 23% Doctorates and 26% Post-Doctorates while undergraduates where the biggest group with 39% and 11% where classified as research staff. (DG EAC 2015, p. 18–19).

The Erasmus+ programme classifies its projects in three different key actions:

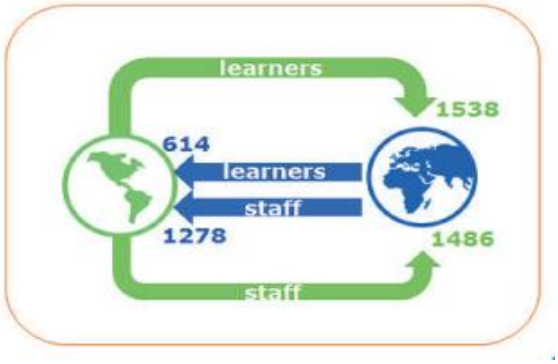
- Mobility (Key Action 1)
- Cooperation for Innovation and Exchange of Good Practices (Key Action 2)
- Support for Policy Reform (Key Action 3)

The following analysis will hereby focus on Key Action 1 and Key Action 2 (in particular on capacity building in HEI projects).

7.2.1 Key Action 1

The following elaborations take reference only to the action specifically dedicated to mobility (Key Action 1). Under Erasmus+ Key Action I, specifically dedicated to fostering mobility between the EU and the world, institutions from LAC can enable their students and doctoral candidates a research stay of up to 12 months in the EU. Until December 2017, 523 projects had been funded under this area, allowing for the mobility of almost 5000 researchers and students. As Figure 42 illustrates, the exchange rates of academic staff between the regions is almost equal (1486 LAC staff to the EU vs. 1278 EU staff to LAC), while the number for students moving from LAC to the EU is more than the double of EU to LAC.

Figure 42: Erasmus+ mobility.



Source: EC: http://ec.europa.eu/education/sites/education/files/annexes_final_en.pdf

7.2.1.1 Geographic Clustering

In terms of LAC higher education institutions that are participating in the projects, it is to note that some universities, like the University of São Paulo or the University Pontifica Catolica de Chile have been especially successful in engaging in Erasmus+ projects as Table 20 shows. This points to the fact that they could rely on the benefit of their sound and well-structured internationalisation systems and their previously built academic networks to engage in mobility projects and send their students to Europe or receive European students. While this is not surprising, an interesting case has to be highlighted. The University of West Indies, with campuses in various Caribbean countries, has managed to bundle efforts of smaller universities and hereby achieve a high participation rate. Its institutional mechanisms seem to be reinforcing the capabilities to join international research projects and to engage effectively in the international research community (Rampersad 2014, p. 1).

Table 20: Most active institutions from Top 12 LA countries + Caribbean universities with multiple participations, Erasmus+, Key Action 1.

Country	Instituion	Participations
Brazil	Universidade de São Paulo	25
Argentina	Universidad de Buenos Aires	10
Chile	Pontificia Universidad Catolica de Chile	12
Mexico	Instituto Tecnologico y de Estudios Superiores de Monterrey	10
Colombia	Pontificia Universidad Javeriana	8
Cuba	Universidad de La Habana	8
Peru	Pontificia Universidad Católica del Perú	5
Ecuador	Escuela Superior Politécnica de Chimborazo	3
Paraguay	Universidad Nacional De Asunción	4
Bolivia	Universidad Mayor de San Simon	3
Uruguay	Universidad de Montevideo	5
Costa Rica	Universidad de Costa Rica	5
Trinidad and Tobago, Jamaica and Barbados	The University of the West Indies – Jamaica, Trinidad and Barbados	7
Dominican Republic	Instituto Tecnológico de Santo Domingo	3

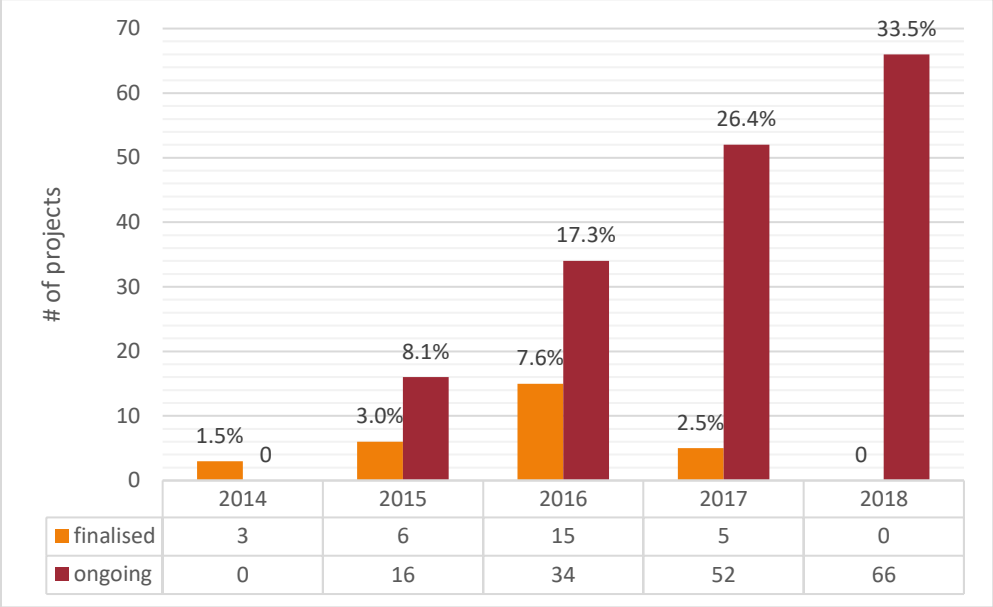
Source: EC: http://ec.europa.eu/education/sites/education/files/annexes_final_en.pdf

7.2.2 Key action 2: Cooperation for innovation and the exchange of good practices

7.2.2.1 Geographic Clustering

In total 197 projects under Erasmus+ Key action 2: Cooperation for innovation and exchange of good practices with both CELAC and EU participation were applied for between 2014 and 2018. 29 projects (14.7%) had already been "finalised" while 168 (85.3%) were marked as "ongoing".

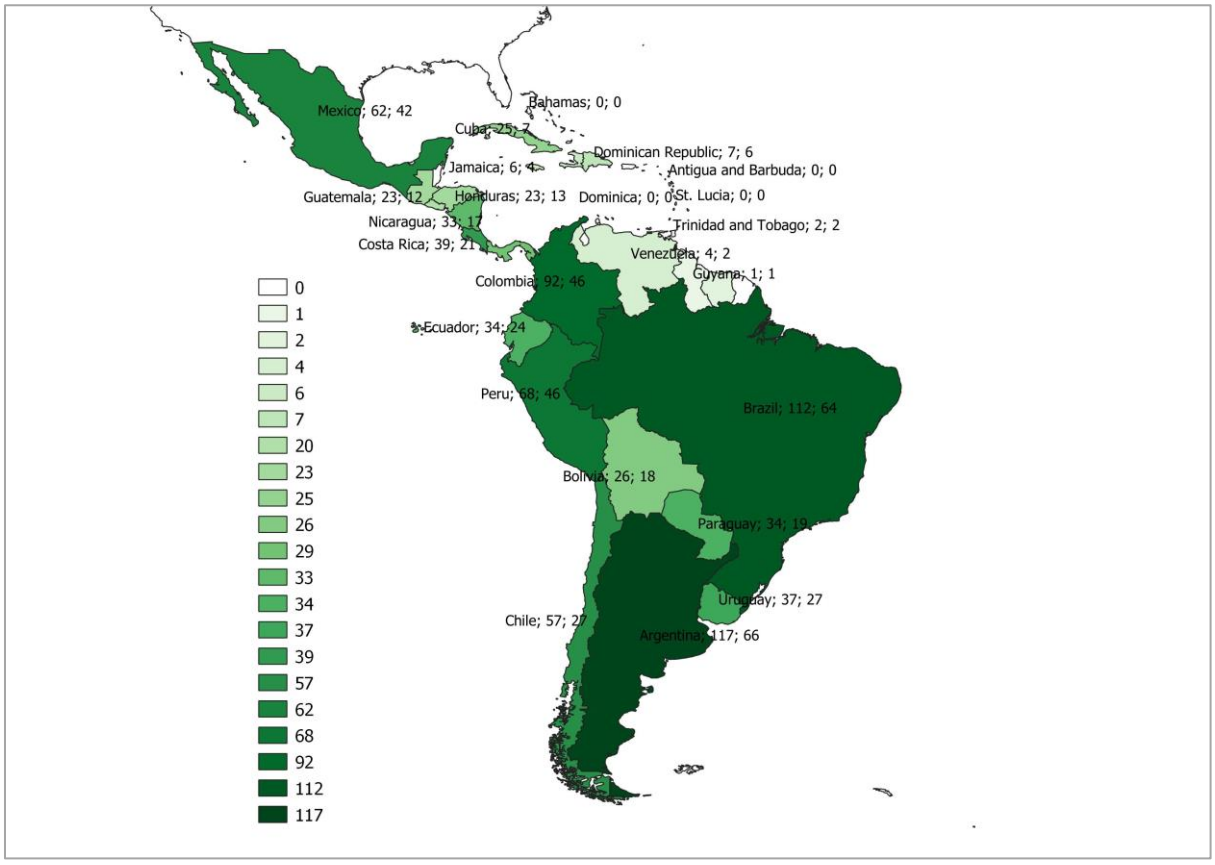
Figure 43: EU-CELAC projects in Erasmus+ KA2 by status and call year



	2014	2015	2016	2017	2018
finalised	3	6	15	5	0
ongoing	0	16	34	52	66

There were 1918 instances of participation in these 197 projects in total; 861 of them were from CELAC countries, 796 from EU Member States and 261 from third countries. 26 of the 33 CELAC countries participated in these projects. The seven countries that did not participate in Erasmus+ key action 2 between 2014 and 2018 were: Antigua and Barbuda, Bahamas, Belize, Dominica, Grenada, Saint Kitts and Nevis and Saint Lucia (Figure 44).

Figure 44: Instances of participation of CELAC countries in Erasmus+ key action 2 (2014-2018) with EU cooperation [Name of country; number of total participations; number of projects]



Argentina and Brazil were the most active countries in the Erasmus+ key action 2 programme with 117 (13.6% of all CELAC participations) and 112 (13% of all CELAC participations) instances of participation; translating to an involvement in 66 and 64 projects respectively. Together with Colombia (n=92), Peru (n=68), Mexico (n=62) and Chile (n=57), the instances of participation of Argentina and Brazil warranted them to be in the upper quartile hence belonging to the group of countries with "very high cooperation" (see Table 27). With lower instances of cooperation but still considerably high, the next group of countries were considered as "high cooperation" countries and comprised of: Costa Rica (n=39), Uruguay (n=37), Paraguay and Ecuador (n=34 each), Nicaragua (n=33), Panama (n=29) and Bolivia (n=26). "Medium cooperation" countries in Erasmus+ key action 2 (2014-2018) included: Cuba (n=25), Honduras and Guatemala (n=23 each) and El Salvador (n=7). Noteworthy is that although compared to the number of participations of the rest of the countries in the "medium cooperation" bracket, El Salvador had considerably fewer instances of participation which arithmetically was nevertheless above the 25th percentile; but importantly it was involved in six projects much higher than the 25th percentile threshold of 2.5 projects. Similarly, Cuba had the highest instances of participation of the medium cooperation countries; namely 25, but it was only involved in seven projects altogether. "Low cooperation" countries comprised of those countries with six instances of participation or less: Jamaica and Haiti (n=6 each), Venezuela (n=4), Trinidad and Tobago and Suriname (n=2 each), St. Vincent and the Grenadines, Guyana and Barbados (n=1 each).

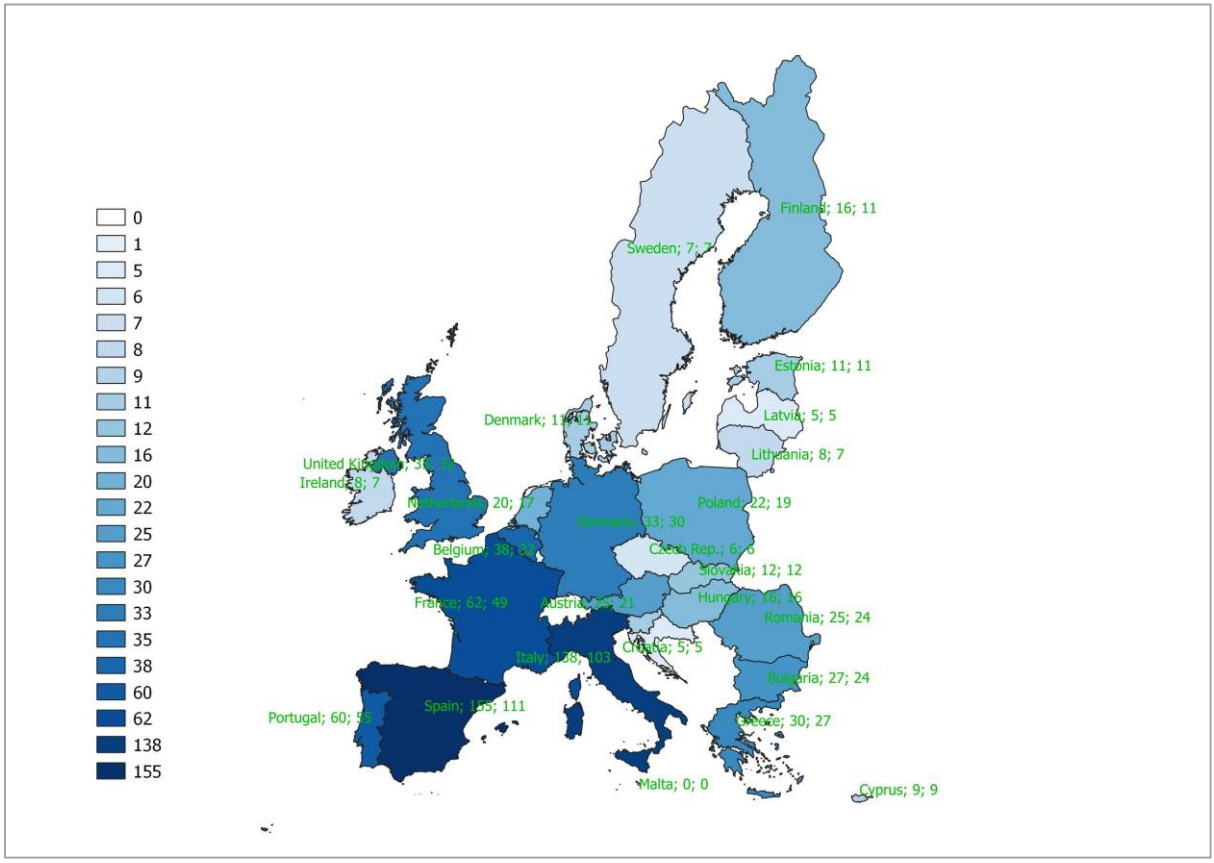
Table 21: CELAC countries by level of cooperation in Erasmus+ key action 2 based on the interquartile range of the instances of participation

Country	Participation	Projects	
Antigua and Barbuda	0	0	No cooperation
Bahamas	0	0	
Belize	0	0	
Dominica	0	0	
Grenada	0	0	
St. Kitts and Nevis	0	0	
St. Lucia	0	0	
Barbados	1	1	Low cooperation
Guyana	1	1	
St. Vincent and the Grenadines	1	1	
Suriname	2	1	
Trinidad and Tobago	2	2	
Venezuela	4	2	
Haiti	6	2	
Jamaica	6	4	
Dominican Republic	7	6	Medium cooperation
El Salvador	20	10	
Guatemala	23	12	
Honduras	23	13	
Cuba	25	7	

Bolivia	26	18	High cooperation
Panama	29	13	
Nicaragua	33	17	
Ecuador	34	24	
Paraguay	34	19	
Uruguay	37	27	
Costa Rica	39	21	
Chile	57	27	Very high cooperation
Mexico	62	42	
Peru	68	46	
Colombia	92	46	
Brazil	112	64	
Argentina	117	66	

Considering EU involvement in these 197 projects, Malta was the only EU Member State that did not take part in a project with CELAC countries (see Figure 45). Spain and Italy dominated the participation in these projects with 155 and 138 involvements in 111 and 103 projects respectively. Their engagement both in terms of instances of participation and number of projects was even stronger than that of the top CELAC countries Argentina and Brazil (Instances of participation: 117 & 112 and projects: 66 and 64 respectively).

Figure 45: Instances of participation of EU Member States in Erasmus+ key action 2 (2014-2018) with CELAC countries [Name of country; number of total participations; number of projects]



Also falling into the "high cooperation" countries among the EU Member States are countries with lower than half the instances of cooperation and project involvement than Spain and Italy or less, but

still situated in the upper quartile: France (n=62), Portugal (n=60), Belgium (n=38), the United Kingdom (n=35) and Germany (n=33). The next group of countries categorised under "high cooperation" countries involve countries with between 32 and 17 instances of cooperation: Greece (n=30), Bulgaria (n=27), Romania and Austria (n=25 each), Poland (n=22) and the Netherlands (n=20). "Medium cooperation" countries on the other hand, lie between 9 and 16 instances of cooperation: Hungary and Finland (n=16 each), Slovakia (n=12), Slovenia, Estonia and Denmark (n=11 each) and Cyprus (n=9). The remaining EU Member States: Lithuania and Ireland (n=8), Sweden (n=7), the Czech Republic (n=6), Latvia and Croatia (n=5 each) and Luxembourg (n=1) are grouped under the "low cooperation" countries (see Table 22).

Table 22: EU Member States by level of cooperation in Erasmus+ key action 2 with CELAC countries based on the interquartile range of the instances of participation

Country	Participation	Projects	
Malta	0	0	No cooperation
Luxembourg	1	1	Low cooperation
Croatia	5	5	
Latvia	5	5	
Czech Republic	6	6	
Sweden	7	7	
Ireland	8	7	
Lithuania	8	7	
Cyprus	9	9	Medium cooperation
Denmark	11	11	
Estonia	11	11	
Slovenia	11	9	
Slovakia	12	12	
Finland	16	11	
Hungary	16	16	
Netherlands	20	17	High cooperation
Poland	22	19	
Austria	25	21	
Romania	25	24	
Bulgaria	27	24	
Greece	30	27	
Germany	33	30	Very high cooperation
United Kingdom	35	32	
Belgium	38	32	
Portugal	60	55	
France	62	49	
Italy	138	103	
Spain	155	111	

In addition to the CELAC countries and EU Member States involved in these 197 Erasmus+ key action 2 projects, in 90 of these projects 55 other countries with a total of 261 instances of participations were also involved. India was the most active third country in these projects with 30 instances of participations in 27 projects, followed by Vietnam (18 instances of participation in 18 projects), Kenya (16 instances of participation in 16 projects) and South Africa (16 instances of participation in 14 projects).

Figure 46: Instances of participation of third countries in Erasmus+ key action 2 (2014-2018) with CELAC countries [Name of country; number of total participations; number of projects]

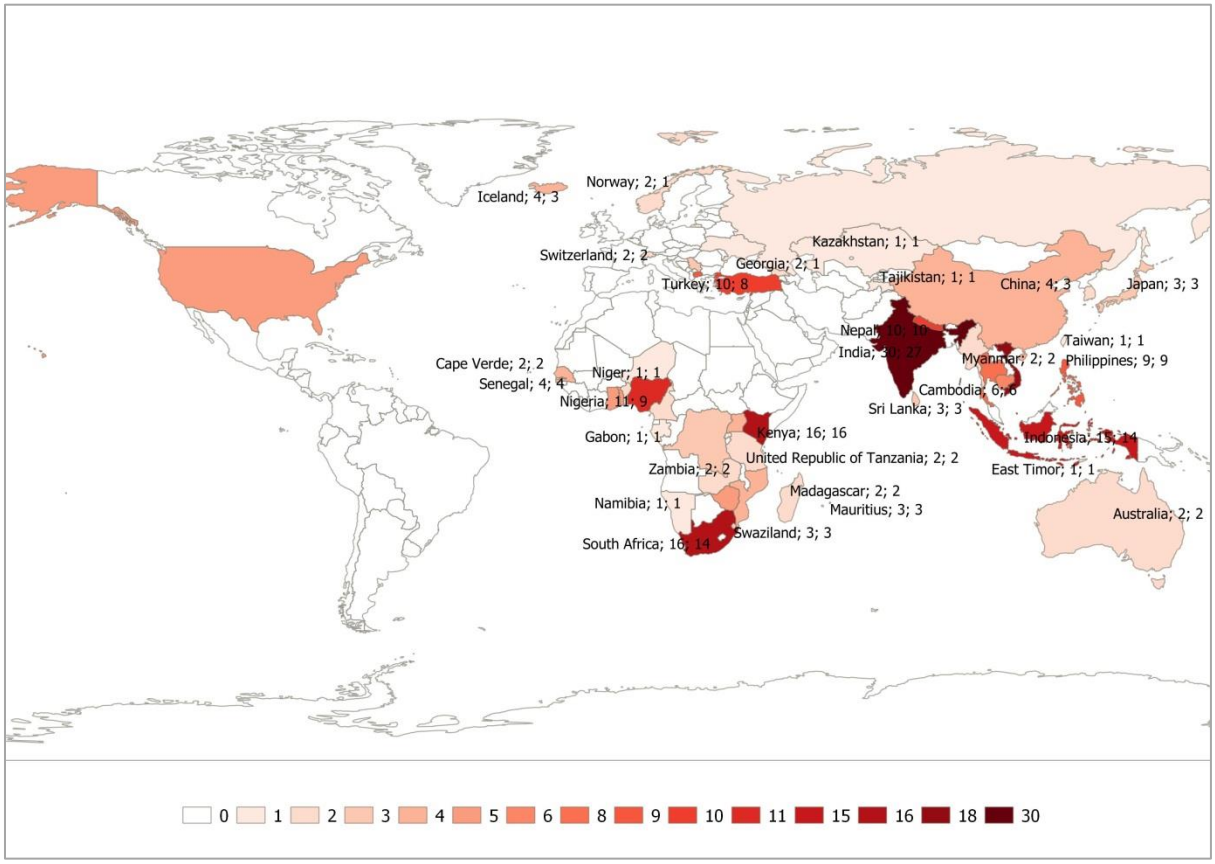


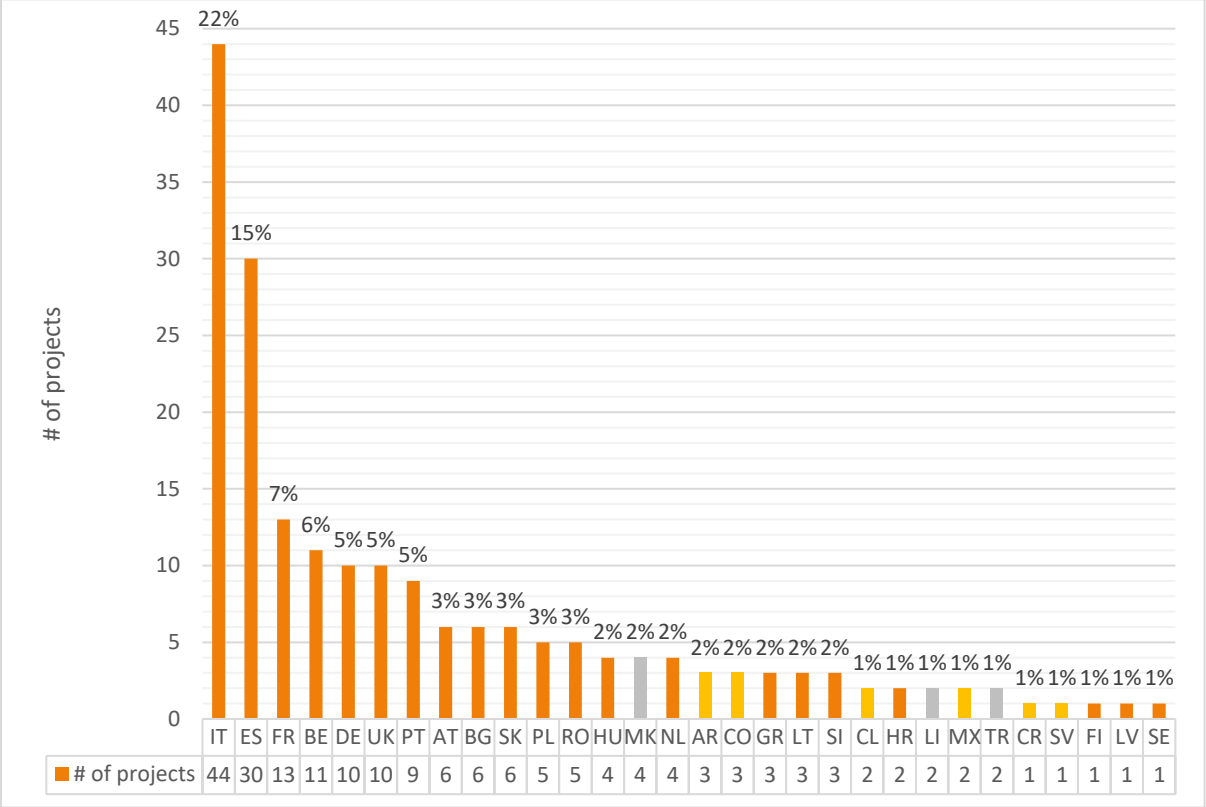
Table 23: Third countries by level of cooperation in Erasmus+ key action 2 with CELAC countries

Country	Participation	Projects
India	30	27
Vietnam	18	18
Kenya	16	16
South Africa	16	14
Indonesia	15	14
Nigeria	11	9
Nepal	10	10
Turkey	10	8
Macedonia	9	9
Philippines	9	9
Thailand	8	8
Cambodia	6	6
Ghana	5	5
Togo	5	5
United States of America	5	5

Zimbabwe	5	5
China	4	3
Hong Kong	4	3
Iceland	4	3
Mozambique	4	4
Senegal	4	4
Uganda	4	4
Democratic Republic of the Congo	3	3
Japan	3	3
Liechtenstein	3	2
Sri Lanka	3	3
Mauritius	3	3
Serbia	3	2
Swaziland	3	3
Australia	2	2
Benin	2	2
Switzerland	2	2
Cameroon	2	2
Cape Verde	2	2
Georgia	2	1
Korea	2	2
Madagascar	2	2
Myanmar	2	2
Norway	2	1
Tanzania	2	2
Zambia	2	2
Ivory Coast	1	1
Gabon	1	1
Kazakhstan	1	1
Maldives	1	1
Namibia	1	1
Niger	1	1
Russia	1	1
Rwanda	1	1
Seychelles	1	1
Singapore	1	1
Tajikistan	1	1
Timor-Leste	1	1
Taiwan	1	1
Ukraine	1	1

Considering the Erasmus+ KA2 projects between 2014 and 2018 by coordinating country, institutions from a total of 30 countries coordinated or were applicant in the 197 projects (Figure 47). The country with the most projects as applicant was Italy with a total of 44 projects, followed by Spain with 30, France with 13, Belgium with 11 and Belgium and Germany with 10 projects each. Of these 30 countries only six were from CELAC (Argentina and Colombia with three projects each as applicant, Chile and Mexico each with two and Costa Rica and El Salvador each with one project), three were third countries (Macedonia with four projects as applicant and Liechtenstein and Turkey each with two projects), while the rest (n=21) were EU Member States. The EU Member States that participated in this programme that did not coordinate a project were: Cyprus, the Czech Republic, Denmark, Estonia, Ireland and Luxembourg.

Figure 47: Erasmus+ KA2 projects by country of lead of partner [Data labels represent the percentage in total number of projects (n=197); the values in the data table are the same values represented by the bars and refer to the number of projects coordinated by each of the countries]



Advancing from a country analysis to an institution level, 26 institutions from 14 CELAC countries were ranked in the top 5 according to their instances of participation. Brigada de Voluntarios Bolivarianos del Peru was the most active institution in CELAC with 21 instances of participation. This was relatively high compared to the institutions ranked second which only had 8 instances of participation each. Although Peru had the top performing institution in terms of participation in Erasmus+ KA2, Argentina had the most institutions in the top 5 ranking with four out of the 26 institutions followed by Costa Rica and Brazil with three institutions each, Peru, Colombia, Uruguay, Honduras and Nicaragua each with two institutions and Chile, El Salvador, Guatemala, Mexico, Panama and Paraguay with a single institution each (see Table 24).

Table 24: Top 5 performing institutions from CELAC by instances of participation in Erasmus+ KA2 (2014-2018)

Institution	Country	Instances of participation	Rank
BRIGADA DE VOLUNTARIOS BOLIVARIANOS DEL PERU	Peru	21	1
ASOCIACION COLOMBIANA PARA EL INTERCAMBIO JUVENIL CULTURAL - ICYE COLOMBIA	Colombia	8	2
FUNDACION SES (SUSTENTABILIDAD, EDUCACION, SOLIDARIDAD)	Argentina	8	2
INSTITUTO TECNOLOGICO DE COSTA RICA	Costa Rica	8	2
ASOCIACION CULTURAL DE INTERCAMBIODE COSTA RICA	Costa Rica	7	3
COOPERATIVA DE TURISMO E PROMOCAO SOCIAL - COOPERBOM TURISMO	Brazil	7	3

UNIVERSIDAD DE LA REPUBLICA	Uruguay	7	3
UNIVERSIDAD NACIONAL DEL SUR	Argentina	7	3
ASOCIACION PUENTE SUR	Paraguay	6	3
UNIVERSIDAD DE COSTA RICA	Costa Rica	6	4
UNIVERSIDAD DE EL SALVADOR	El Salvador	6	4
UNIVERSIDAD DE PANAMA	Panama	6	4
UNIVERSIDAD IBEROAMERICANA	Mexico	6	4
UNIVERSIDAD NACIONAL DE ROSARIO - UNR	Argentina	6	4
UNIVERSIDAD NACIONAL DEL LITORAL	Argentina	6	4
UNIVERSIDADE FEDERAL DO RIO DE JANEIRO	Brazil	6	4
ASOCIACION DE INTERCAMBIO INTERNACIONAL CULTURAL DE JOVENES (INTERNATIONAL CULTURAL YOUTH EXCHANGE) ICYE HONDURAS	Honduras	5	5
CENTRO DE ESTUDIOS DE PAYSANDU	Uruguay	5	5
UNIVERSIDAD AMERICANA ASOCIACION	Nicaragua	5	5
UNIVERSIDAD DE ANTIOQUIA	Colombia	5	5
UNIVERSIDAD DE PIURA	Peru	5	5
UNIVERSIDAD NACIONAL AUTONOMA DE HONDURAS	Honduras	5	5
UNIVERSIDAD NACIONAL AUTONOMA DE NICARAGUA, LEON	Nicaragua	5	5
UNIVERSIDAD RAFAEL LANDIVAR	Guatemala	5	5
UNIVERSIDAD VINA DEL MAR	Chile	5	5
UNIVERSIDADE ESTADUAL PAULISTA JULIO DE MESQUITA FILHO	Brazil	5	5

With regards to active institutions from EU Member States in Erasmus+ KA2, 56 institutions from 19 of the 27 EU Member States that participated in this programme composed the ranking of the top 5 institutions according to their instances of participation. Universidad de Alicante from Spain was the most active institution in this programme with 8 instances of participation. This one of the 16 Spanish institutions included in the top 5 ranking making Spain the top player in this respect. Italy followed this ranking with 10 institutions, Portugal with four and France with three (Table 25). The rest of the 19 EU Member States included in this ranking were only represented by one or two institutions. The EU Member States that participated in Erasmus+ KA2 but did not have any institutions in the top 5 ranking were: Croatia, Cyprus, the Czech Republic, Estonia, Lithuania, Luxembourg, Slovenia and Sweden.

Table 25: Top 5 performing institutions from EU Member States by instances of participation in Erasmus+ KA2 (2014-2018)

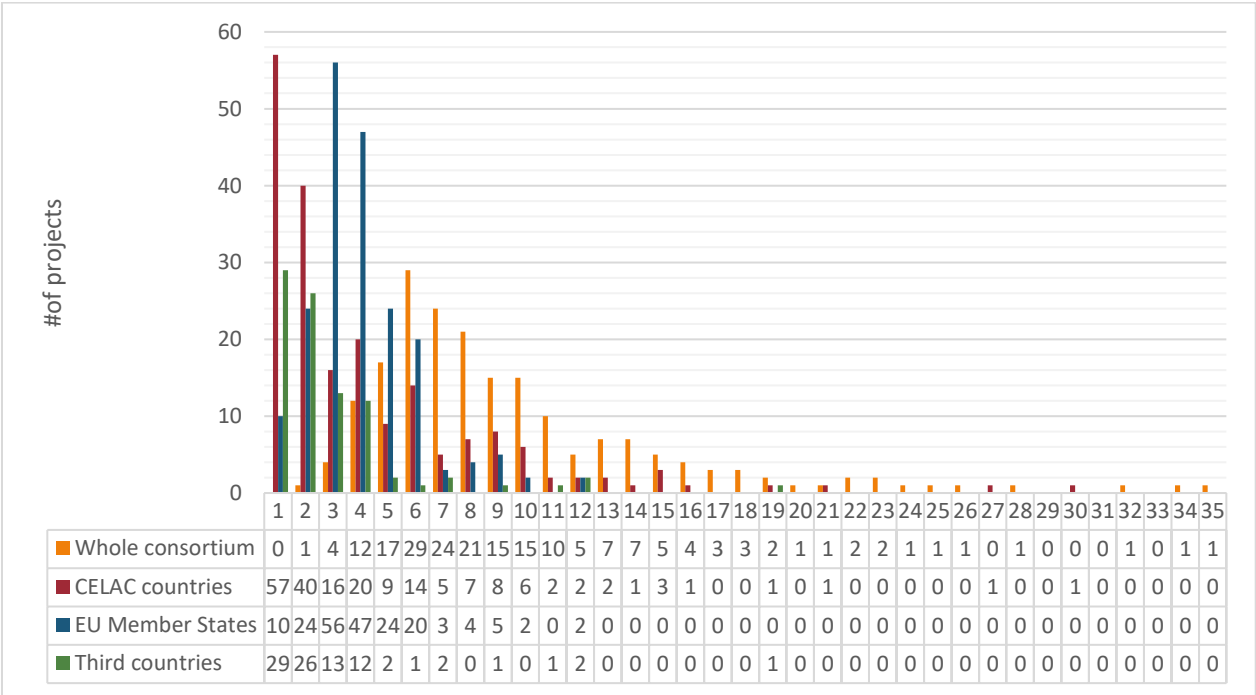
Institution	Country	Instances of participation	Rank
UNIVERSIDAD DE ALICANTE	Spain	8	1
ACTION SYNERGY SA	Greece	7	2
ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA	Italy	7	2
OBCIANSKE ZDRUZENIE KERIC	Slovakia	7	2

UNIVERSIDADE DO PORTO	Portugal	7	2
ASOCIACION PROJUVEN	Spain	5	3
FEKETE SEREG IFJUSAGI EGYESULET	Hungary	5	3
UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA	Italy	5	3
UNIVERSITAT AUTONOMA DE BARCELONA	Spain	5	3
ASOCIACION CAZALLA-INTERCULTURAL	Spain	4	4
ASOCIACION JUVENIL INTERCAMBIA	Spain	4	4
ASOCIACION OBSERVATORIO DE LAS RELACIONES UNION EUROPEA AMERICA LATINA (UE/AL)	Spain	4	4
ASSOCIAZIONE DI PROMOZIONE SOCIALE JOINT	Italy	4	4
FH JOANNEUM GESELLSCHAFT MBH	Austria	4	4
GRENZENLOS - INTERKULTURELLER AUSTAUSCH	Austria	4	4
SERVEI CIVIL INTERNATIONAL DE CATALUNYA ASOCIACION	Spain	4	4
THE GLASGOW CALEDONIAN UNIVERSITY	United Kingdom	4	4
UNIVERSIDAD DE LA IGLESIA DE DEUSTO ENTIDAD RELIGIOSA	Spain	4	4
UNIVERSITAT DE BARCELONA	Spain	4	4
AALBORG UNIVERSITET	Denmark	3	5
AGENCIA NACIONAL DE EVALUACION DE LA CALIDAD Y ACREDITACION (ANECA)	Spain	3	5
ALLIANCE OF EUROPEAN VOLUNTARY SERVICE ORGANISATIONS ASSOCIATION	Denmark	3	5
ASOCIACIJA "AKTYVUS JAUNIMAS"	Latvia	3	5
ASOCIACION INICIATIVA INTERNACIONAL JOVEN	Spain	3	5
ASSOCIACAO CULTURAL MOINHO DA JUVENTUDE	Portugal	3	5
ASSOCIATA EURODEMOS	Romania	3	5
ASSOCIATION CONCORDIA	France	3	5
ASSOCIAZIONE CULTURALE ESPRESSIONE HIP HOP	Italy	3	5
COMMISSIONE SINODALE PER LA DIACONIA	Italy	3	5
DON BOSCO YOUTH - NET	Belgium	3	5
EL CIRCULO BREAKING	Spain	3	5
FODERATION DER NATIONALKOMITEES IM INTERNATIONALEN KULTURELLEN JUGENDAUSTAUSCH - ICYE EV	Germany	3	5
INTER-CULTURAL YOUTH EXCHANGE LTD	United Kingdom	3	5
LUNARIA ASSOCIAZIONE DI PROMOZIONE SOCIALE E IMPRESA SOCIALE	Italy	3	5
MAAILMANVAIHTO RY	Finland	3	5
MINE VAGANTI NGO	Italy	3	5
NARODNO CHITALISHTE SVETAL DEN 2009	Bulgaria	3	5
OBCIANSKE ZDRUZENIE NO GRAVITY	Slovakia	3	5
OMILOS ENERGON NEON FLORINAS OE NEF	Greece	3	5
POLITECNICO DI MILANO	Italy	3	5
POLITECNICO DI TORINO	Italy	3	5
SOLIDARITES JEUNESSES MCP	France	3	5
STARKMACHER EV	Germany	3	5
STICHTING DON BOSCO AMSTERDAM	Netherlands	3	5
STICHTING DON BOSCO YOUTHNET NEDERLAND	Netherlands	3	5
STOWARZYSZENIE CENTRUM MIEDZYNARODOWEJ WYMIANY MLODZIEZY I WOLONTARIATU	Poland	3	5
THE COORDINATING COMMITTEE FOR INTERNATIONAL VOLUNTARY SERVICE	France	3	5
UNIVERSIDAD CARLOS III DE MADRID	Spain	3	5
UNIVERSIDAD COMPLUTENSE DE MADRID	Spain	3	5
UNIVERSIDAD DE SEVILLA	Spain	3	5

UNIVERSIDADE DE LISBOA	Portugal	3	5
UNIVERSIDADE NOVA DE LISBOA	Portugal	3	5
UNIVERSITA CATTOLICA DEL SACRO CUORE	Italy	3	5
UNIVERSITAT POLITECNICA DE VALENCIA	Spain	3	5
UNIVERSITEIT GENT	Belgium	3	5
UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK	Ireland	3	5

The composition of the consortia in the 197 Erasmus+ KA2 projects is very different. In total, each project has an average of 10 project partners; whereby the smallest consortium consists of 2 partners and the largest has 35 project partners. Considering the proportion of CELAC countries, EU Member States and third countries in these projects, each project comprises of an average of 4 CELAC countries, 4 EU Member States and 1 third country. The minimum number of institutions from CELAC in these projects is 1. This is also true for EU Member States. 107 of the 197 do not include the participation of an institution not belonging to CELAC or the EU. The maximum number of CELAC partners in a project is 30; while the most number of institutions from EU Member States is 12 and that of third countries is 19.

Figure 48: Erasmus+ KA2 projects (2014-2018) by number of size of consortium differentiated by CELAC countries, EU Member States and third countries



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Whole consortium	0	1	4	12	17	29	24	21	15	15	10	5	7	7	5	4	3	3	2	1	1	2	2	1	1	1	0	1	0	0	0	1	0	1	1
CELAC countries	57	40	16	20	9	14	5	7	8	6	2	2	2	1	3	1	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0
EU Member States	10	24	56	47	24	20	3	4	5	2	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Third countries	29	26	13	12	2	1	2	0	1	0	1	2	0	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

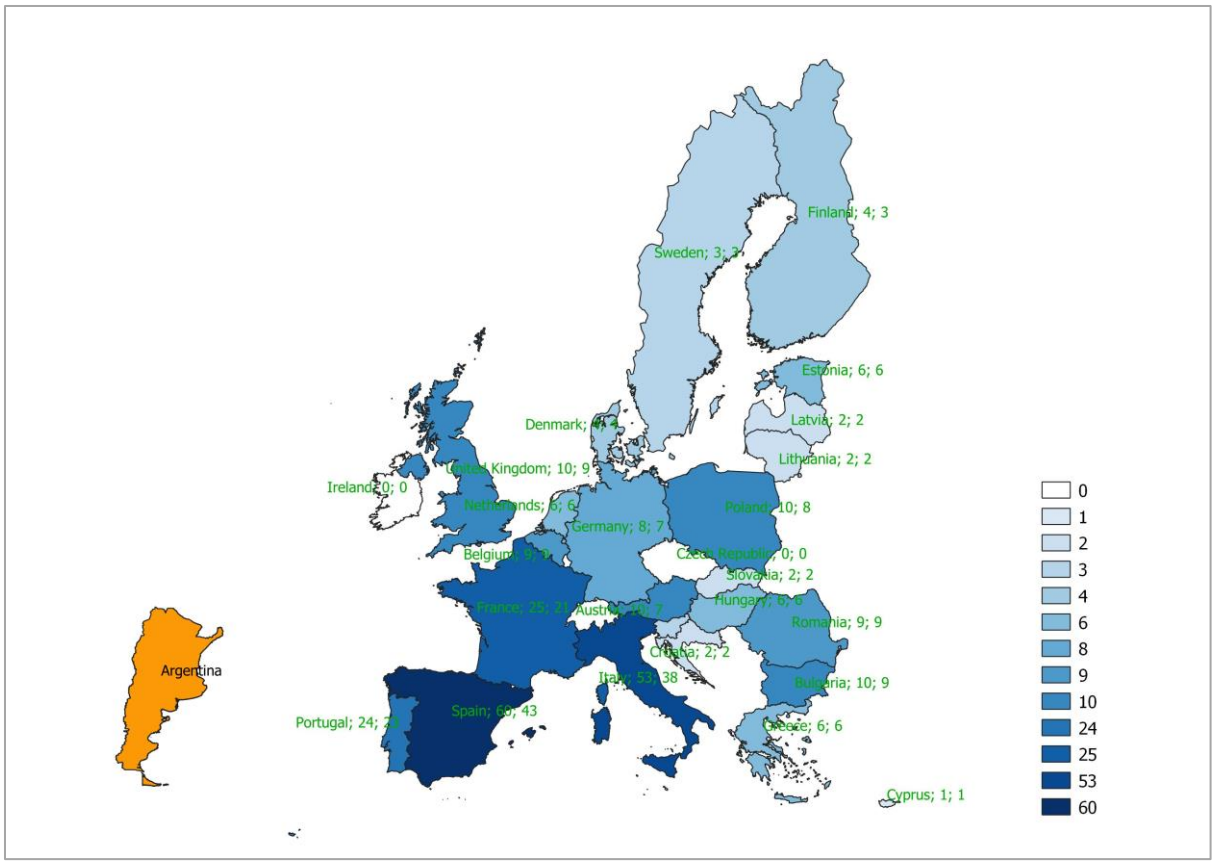
The following section will present the EU Member States that selected CELAC countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador and Jamaica) mostly cooperated with in Erasmus+ KA2 (2014-2018).

Argentina:

With 117 instances of participation, Argentina was involved in 66 projects in Erasmus+ key action 2 (2014-2019). These projects involved on average two Argentinian institutions; with the minimum number of institutions per project being one and the maximum seven. Of the 27 EU Member States that participated in this programme, Argentina was in projects with 24 of them (Figure 49). The EU

Member States that did not participate in the same projects as Argentina were: The Czech Republic, Ireland and Luxembourg. Spain and Italy had the most contact with Argentinian institutions in 60 and 53 instances of participation, translating to 43 and 38 projects each. After Spain and Italy, Argentina had the most collaboration with French institutions in 25 instances (projects=21), Portugal in 24 (projects=23), Bulgaria and the United Kingdom in 10 instances of participation and nine projects each, Poland and Austria also in 10 instances of participation in eight and seven projects respectively and Belgium and Romania in nine instances of participation in nine projects each. The rest of the countries were involved in less than nine instances of participation together with Argentinian institutions.

Figure 49: EU Member States collaborating with Argentina in Erasmus+ KA2 (2014-2019) by instances of participation

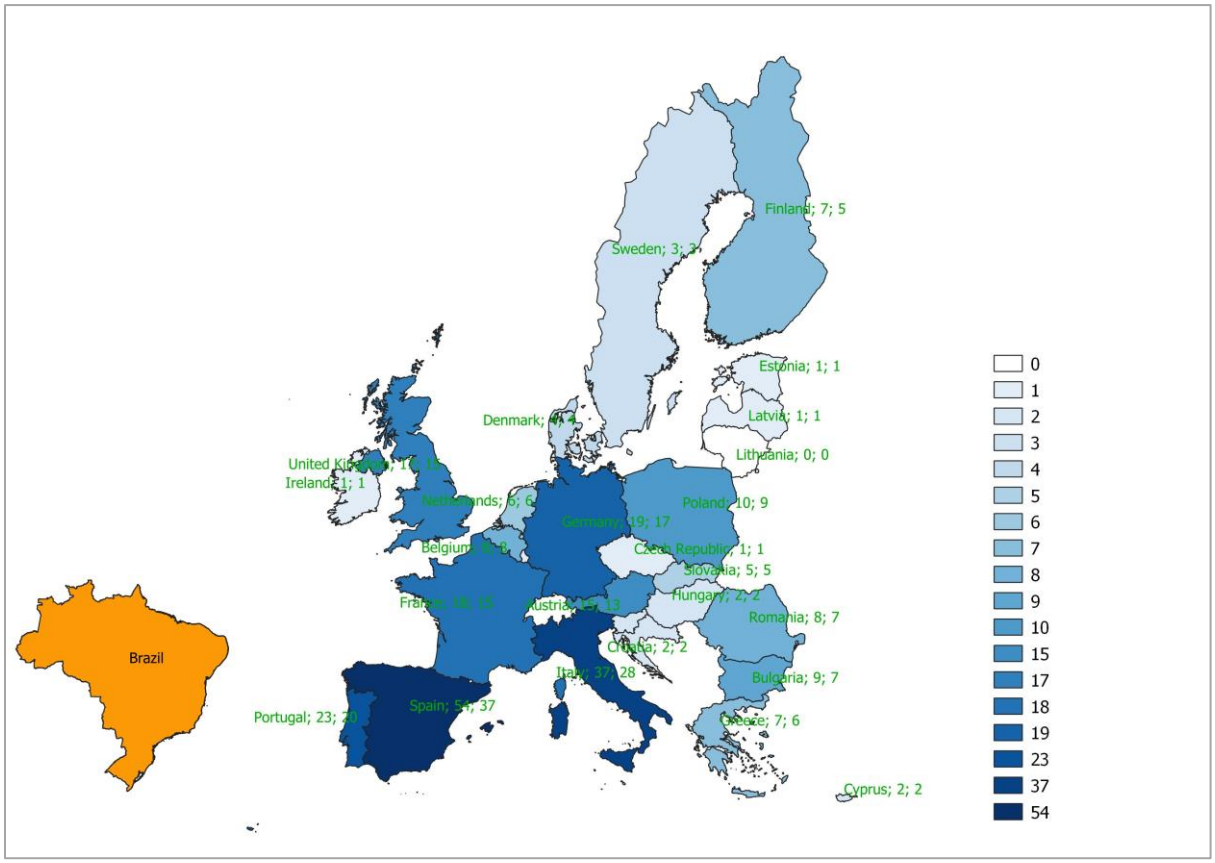


Brazil:

Brazil was the second highest performer in terms of instances of participation in Erasmus+ KA2 after Argentina with 112 instances of participations in 64 projects. It too had an average participation of two institutions in the projects that it was involved with a minimum participation of one institution and a maximum participation of six institutions in the projects that it was involved in. The only EU Member State participating in Erasmus+ KA2 (2014-2018) that it did not collaborate with was Lithuania, otherwise it collaborated in at least one instance with the other 26 of the 27 EU Member States active in this programme (Figure 50). Like Argentina, its strongest collaborators were Spain (n=54 in 37 projects) and Italy (n=37 in 28 projects), although both to a lower extent than Argentina (instances of participation with Argentina: Spain=60 and Italy=53). Interestingly, Germany was not even one of the top 10 collaborators with Argentina (8 instances in 7 projects), but it was fourth for Brazil with 19 instances of collaboration in 17, a relatively stronger collaboration. The situation was similar with the United Kingdom and Austria, which although they were two of the top 10 EU collaborators with Argentina (the United Kingdom: 10 instances in nine projects and Austria: 10 instances in 7 projects),

they both had more instances of cooperation with Brazil (the United Kingdom: 17 instances in 15 projects and Austria: 15 instances in 13 projects).

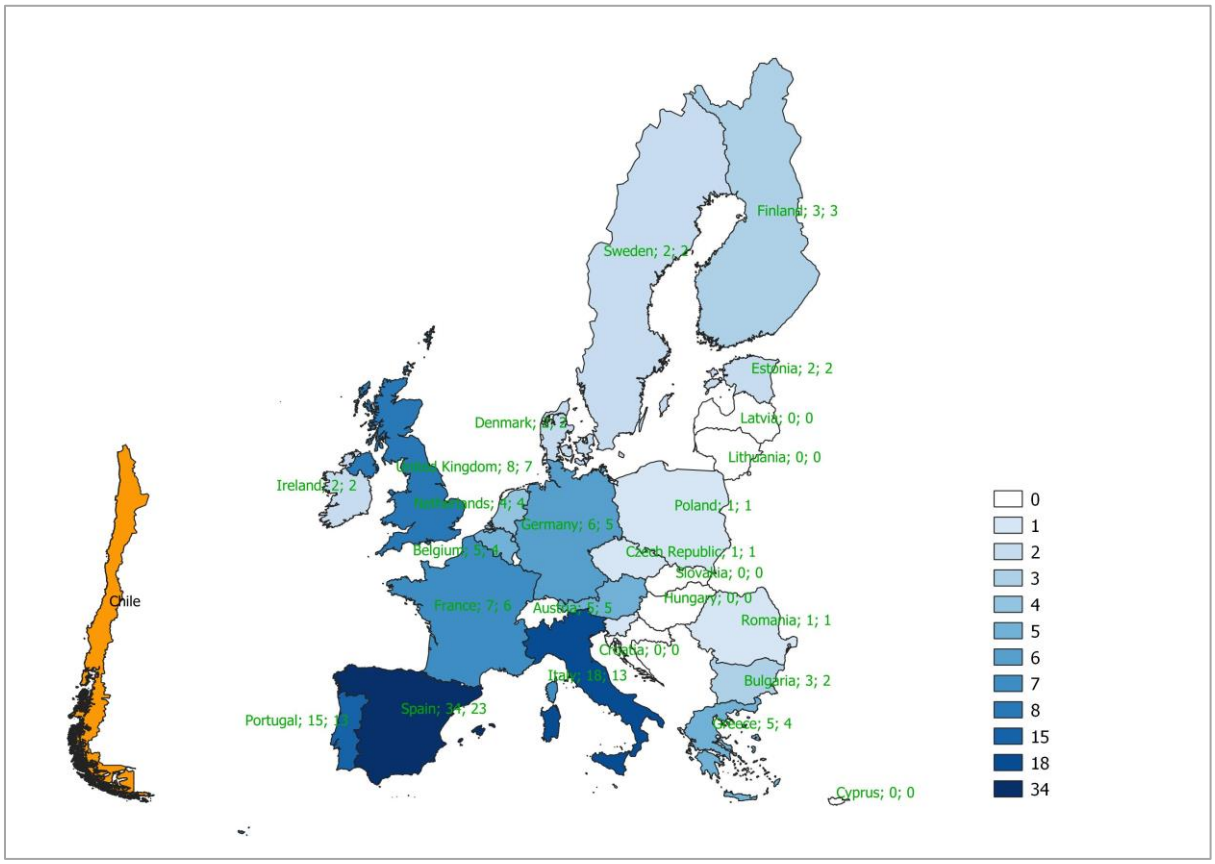
Figure 50: EU Member States collaborating with Brazil in Erasmus+ KA2 (2014-2019) by instances of participation



Chile:

According to the ranking of CELAC countries according to their level of participation in Erasmus+ KA2 (2014-2018), Chile has been grouped as one of the "very high cooperation" countries, although with the lowest instances of participation (n=57) and projects (n=27) in that group. As a result, this is also reflected by the number of EU Member States Chile cooperated with and the number of instances of cooperation with the individual countries. Of the 27 EU Member States active in this programme, Chilean institutions were in projects that also involved institutions from 20 of the countries. The seven absent countries include: Croatia, Cyprus, Hungary, Latvia, Lithuania, Luxembourg and Slovakia. 14 of the 20 EU Member states (70%) that it cooperated with, were only involved in projects between once and five times with Chilean Institutions (Figure 51). In the 27 projects with Chilean participation, on average two Chilean institutions were involved; with the minimum being one institution and the maximum five. Nevertheless, similar to Argentina and Chile, Spain and Italy were the EU Member States with the strongest ties with Chile in this programme; 34 and 23 instances of cooperation in 23 and 13 projects respectively. Worth noting is that the Netherlands was one of the top 10 EU collaborators with Chile although it did not feature in the same ranking from Argentina and Brazil. Still, considering the instances of participation alone, the Netherlands had more cooperation with both Argentina and Spain with six instances of cooperation each compared to four with Chile.

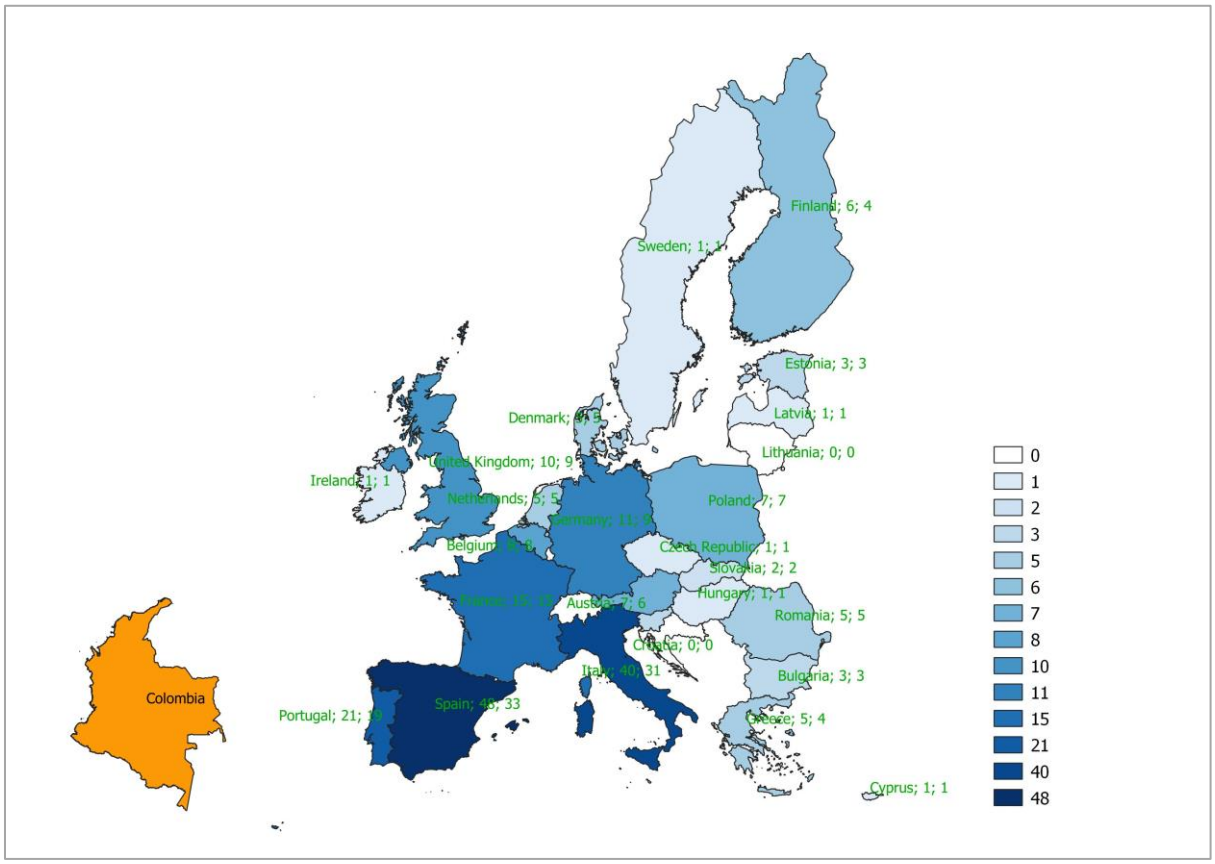
Figure 51: EU Member States collaborating with Chile in Erasmus+ KA2 (2014-2019) by instances of participation



Colombia:

Colombia was the third highest performer in CELAC after Argentina and Brazil with 92 instances of participation in 46 projects; thereby being grouped as a "high cooperation country". On average, in each of the 46 projects it was involved in two Colombian institutions participated, nonetheless like with the previous countries discussed, the minimum participation was by a single institution in a project and the maximum six. Other than Croatia, Lithuania and Luxembourg, Colombian institutions were in the same projects as institutions from all the other 24 EU Member States that were active in Erasmus+ KA2 between 2014 and 2018. Again like Argentina, Brazil and Chile, Spain and Italy were the main cooperation partners for Colombia with 48 and 40 instances of cooperation in 33 and 31 projects respectively (Figure 52). Although Colombia was the third strongest cooperation partner in terms of instances of cooperation in CELAC in Erasmus+ KA2 (2014-2018), it managed to have the second strongest cooperation among the seven selected countries with six of its top 10 EU cooperation partners: Italy (n=40 after Argentina-Italy: 53), Germany (n=11 after Brazil-Germany: 19), the United Kingdom (n=10 like with Argentina after Brazil-UK: 17), Belgium (n=8 like Brazil after Argentina-Belgium: 9), Poland (n=7 after Argentina/Brazil-Poland: 10) and Finland (n=6 after Brazil-Finland: 7).

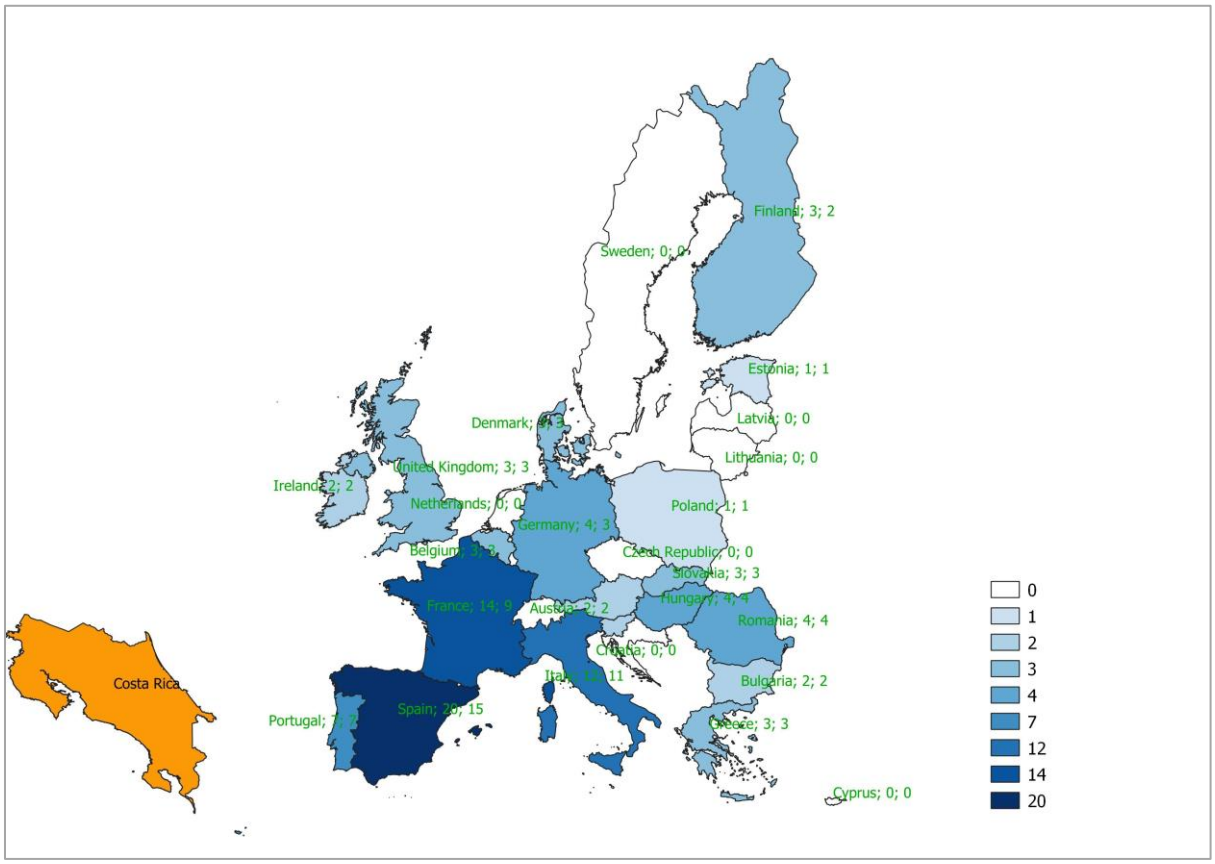
Figure 52: EU Member States collaborating with Colombia in Erasmus+ KA2 (2014-2019) by instances of participation



Costa Rica:

In the categorisation of CELAC countries according to their level of cooperation in Erasmus+ KA2 (2014-2018), Costa Rica was grouped under the second group “high cooperation countries”; with the most instances of participation (n=39) and projects (n=21) in this group. It collaborated with 19 of the 27 EU Member States operating in this programme between 2014 and 2018 (Figure 53). The exceptions were: Croatia, Cyprus, Czech Republic, Latvia, Lithuania, Luxembourg, the Netherlands and Sweden. Like the previous four countries discussed, its strongest cooperation partner was Spain with 20 instances of cooperation in 15 projects. Unlike the previous four countries discussed, whose second strongest cooperation partner was Italy, for Costa Rica this was France with 14 instances of cooperation in 9 projects; nevertheless, of the seven selected countries this was the third most active cooperation for France. Italy was in third place (n=12 in 11 projects). The remaining countries that cooperated with Costa Rica had between one and seven instances of cooperation with it. Looking at the top 10 EU cooperation partners for Costa Rica, Hungary and Romania stick out. Both of these countries were not included in the top 10 EU collaborators of Argentina, Brazil, Chile and Colombia, for Hungary, Costa Rica is the second most active cooperation partner among the seven selected CELAC countries with four instances of collaboration after Argentina which had six instances of cooperation with Hungary. Although Costa Rica was only the fourth most important cooperation partner for Romania among the selected CELAC countries, their level of cooperation permitted Romania to rank seventh for Costa Rica with four instances of cooperation. On average two Costa Rican institutions were involved in each of the 21 projects; with the minimum being one institution in a project and the maximum being seven.

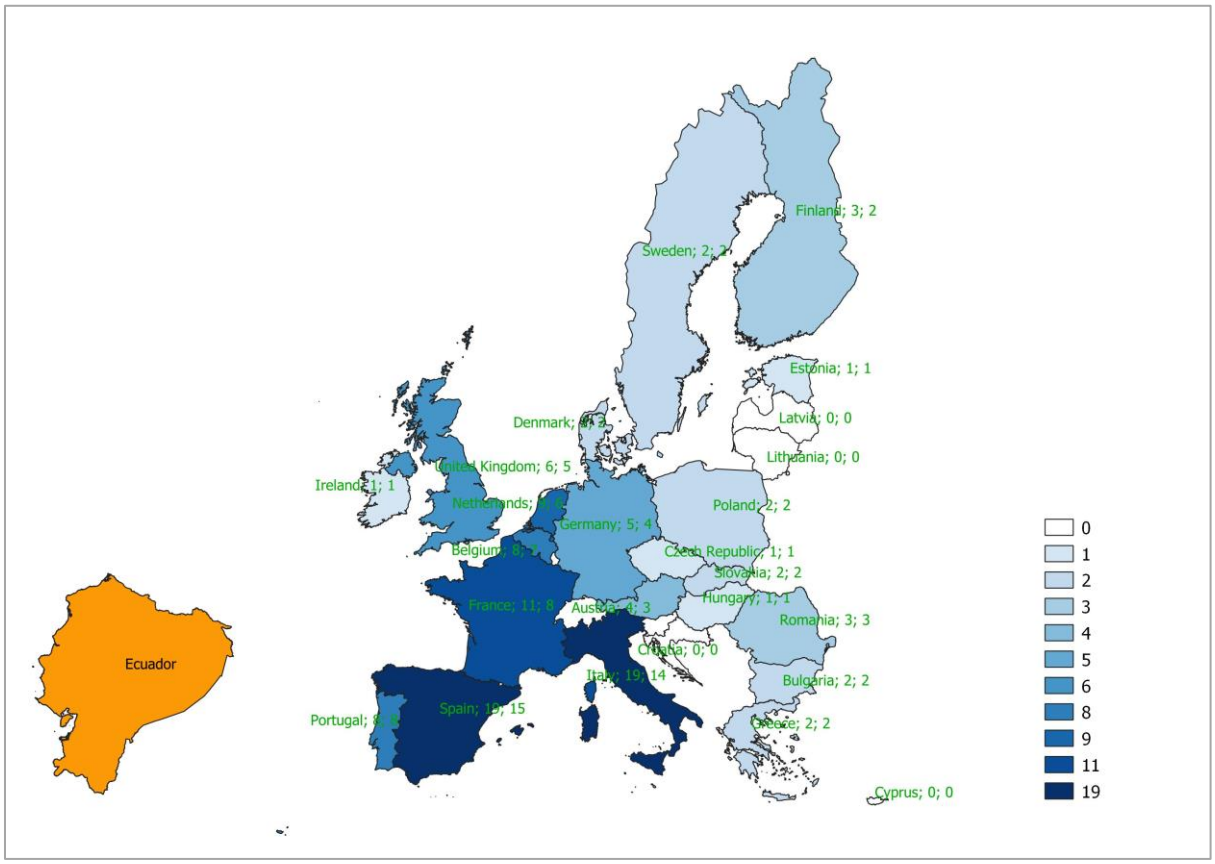
Figure 53: EU Member States collaborating with Costa Rica in Erasmus+ KA2 (2014-2019) by instances of participation



Ecuador:

In the ranking of CELAC countries, Ecuador falls into the second category: "High cooperation countries" just like Costa Rica with less instances of participation (n=34 compared to n=39 for Costa Rica) but involvement in more projects (n=24 compared to n=21 for Costa Rica) (Figure 54). Less instances of cooperation in more projects translated to a lower number of Ecuadorian institutions per project. As a result, on average, in the 24 projects that Ecuador was involved in, only one Ecuadorian institution participated in each project with a maximum participation of three institutions in a single project. In fact, in 15 of the 24 projects, only one Ecuadorian institution was involved, in eight projects two Ecuadorian institutions and in one project three Ecuadorian institutions. In these projects, Ecuador worked together with more EU Member States than Costa Rica (n=21 compared to n=19). The six missing EU Member States that were active in Erasmus+ KA2 just not in projects with Ecuador were: Croatia, Cyprus, Latvia, Lithuania, Luxembourg and Slovenia. Spain and Italy were the strongest cooperation partners for Ecuador, both almost to the same degree considering the instances of cooperation and projects. Both Spain and Italy had 19 instances of cooperation with Ecuador; whereby for Spain this was in 15 projects and for Italy in 14. Taking into account the top 10 cooperation partners for Ecuador, other than Spain, the cooperation between Ecuador and the other nine countries (Italy, France, the Netherlands, Belgium, Portugal, the United Kingdom, Germany, Austria and Finland) were stronger than that with Costa Rica. For the Netherlands, its collaboration with Ecuador was strongest among the selected countries with nine instances of cooperation in six projects; for Argentina and Brazil this was six instances of cooperation in six projects each, Chile four instances of cooperation in four projects, Colombia five instances of cooperation in five projects and Costa Rica did not collaborate with the Netherlands at all.

Figure 54: EU Member States collaborating with Ecuador in Erasmus+ KA2 (2014-2019) by instances of participation



Jamaica:

With just six instances of participation in four projects, Jamaica was grouped under the "low cooperation" countries among all CELAC countries in Erasmus+ key action 2 between 2014 and 2018. In three of the four projects only a single Jamaican institution was involved in each project; while in the fourth project, three Jamaican institutions were involved. These six projects included the involvement of six EU Member States: Italy and the United Kingdom with two instances of cooperation in two projects each, Belgium also with two instances of participation but in a single project with Jamaica and Denmark, France and Spain all cooperation with Jamaica in one instance each (Figure 55).

Figure 55: EU Member States collaborating with Jamaica in Erasmus+ KA2 (2014-2019) by instances of participation

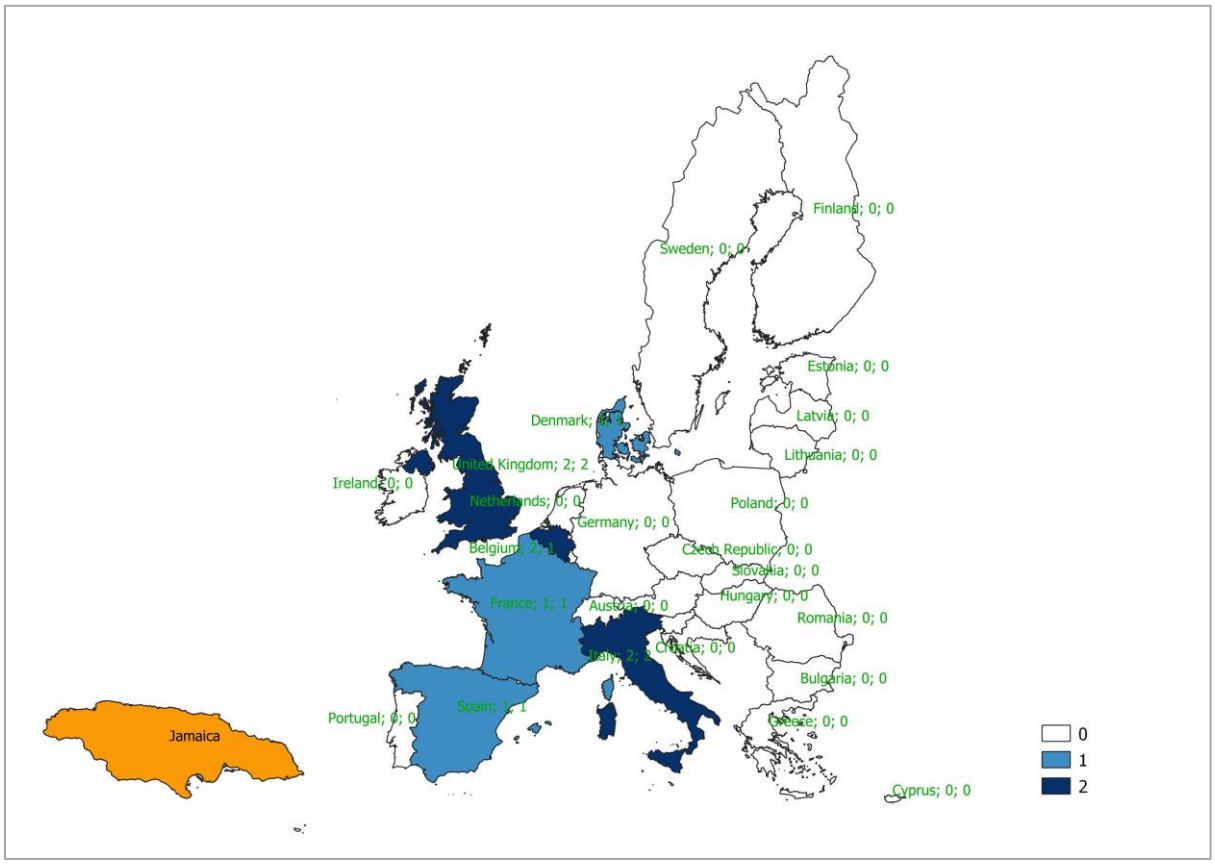


Table 26 below shows the level of cooperation between the selected CELAC countries and Members of the European Union.

Table 26: Collaboration between selected CELAC countries and EU Member States in Erasmus+ key action 2 (2014-2018)

	Argentina (projects=66 participation=117)	**Brazil (projects=64 participation=112)**	**Chile (projects=27 participation=57)**	**Colombia (projects=46 participation=92)**	**Costa Rica (projects=39 participation=21)**	**Ecuador (projects=24 participation=34)**	**Jamaica (projects=4 participation=4)**
Austria	10	15	5	7	2	4	0
Belgium	9	8	5	8	3	8	2
Bulgaria	10	9	3	3	2	2	0
Croatia	2	2	0	0	0	0	0
Cyprus	1	2	0	1	0	0	0
Czech Republic	0	1	1	1	0	1	0
Denmark	4	4	2	5	3	2	1
Estonia	6	1	2	3	1	1	0
Finland	4	7	3	6	3	3	0
France	25	18	7	15	14	11	1
Germany	8	19	6	11	4	5	0
Greece	6	7	5	5	3	2	0
Hungary	6	2	0	1	4	1	0
Ireland	0	1	2	1	2	1	0
Italy	53	37	18	40	12	19	2
Latvia	2	1	0	1	0	0	0
Lithuania	2	0	0	0	0	0	0
Luxembourg	0	1	0	0	0	0	0
Netherlands	6	6	4	5	0	9	0
Poland	10	10	1	7	1	2	0
Portugal	24	23	15	21	7	8	0
Romania	9	8	1	5	4	3	0
Slovakia	2	5	0	2	3	2	0
Slovenia	3	2	1	3	2	0	0
Spain	60	54	34	48	20	19	1
Sweden	3	3	2	1	0	2	0
United Kingdom	10	17	8	10	3	6	2

7.2.2.2 Thematic Clustering

Content-wise, five actions were supported by Erasmus+ key action 2 by 2018[34]:

1. Transnational **strategic partnerships** addressing the fields of education training and youth
2. **Knowledge Alliances** cooperation between higher education institutions and enterprises;
3. **Sector Skills Alliances** supporting design and delivery of joint curricula, programmes and teachings and training methodologies;
4. **Capacity Building in the field of higher education** and **youth**;
5. **IT support platforms** in the field of school and adult education as well as for young people, volunteers and youth workers across Europe and beyond.

In this section of the report, all five actions based on the Erasmus+ KA2 dataset including projects of 2014 to 2018 are briefly thematically clustered. The next chapter specifically tackles the fourth action: "Capacity building in the field of higher education" with projects from 2015 to 2018 (this information is derived from a different dataset).

The dataset used for the analysis provided the following information related to the topics of the projects:

- Action type:
    1. Capacity Building for youth in ACP countries, Latin America and Asia
    2. Capacity Building in higher education
    3. Knowledge Alliances for higher education
    4. Strategic Partnerships for higher education
    5. Strategic Partnerships for school education
    6. Strategic Partnerships for youth
- Topics for 49 of the 197 projects; 41 of these were under the action type: "Capacity Building for youth in ACP countries, Latin America and Asia", five under: "Strategic Partnerships for youth", two under: "Strategic Partnerships for higher education" and the last under: "Strategic Partnerships for school education". As a result of the lack of representativeness of the available information in this respect, this variable will not be considered in the subsequent analysis
- Project summary: Project abstracts are included in the variable "project summary". As these analyses are based on quantitative data, this variable too will not be analysed for the purpose of this report as it surpasses the scope of the intended analyses.

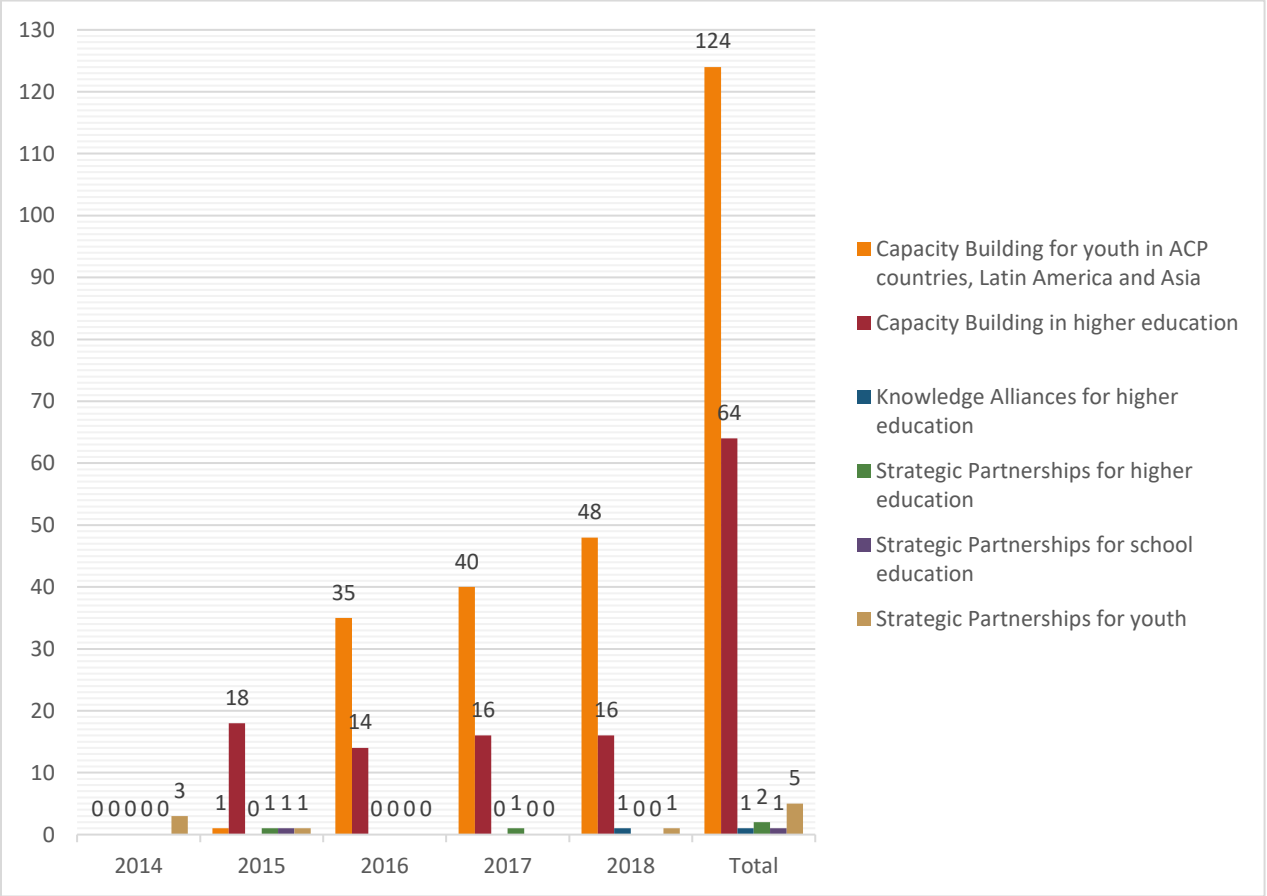
As a consequence, only descriptive analyses related to the variable "action type" and "project title" will be presented in the sections below.

Projects with EU and CELAC participation in action type three to six of Erasmus+ key action 2 were very underrepresented: There were five projects under the action type "strategic partnerships for youth", two in "strategic partnerships for higher education" and one each in "knowledge alliances for higher education" and "strategic partnerships for school education". For the action type "capacity building in

[34] Source: https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus2/files/erasmus-plus-programme-guide3_en.pdf [accessed August 2019]

higher education" there were 64 projects[35] and 124 projects were funded under the action "capacity Building for youth in ACP countries, Latin America and Asia" (Figure 56).

Figure 56: Erasmus+ key action 2 projects between 2014 and 2018 by action type and call year



The five projects funded under the action type "strategic partnerships for youth" involves three CELAC countries: Bolivia (n=1), Brazil (n=3) and Mexico (n=1) and 11 EU Member States: Austria (n=1), Belgium (n=2), the Czech Republic (n=1), Denmark (n=1), Finland (n=2), France (n=1), Germany (n=4), Italy (n=5), the Netherlands (n=2), Spain (n=5) and the United Kingdom (n=2). Only one institution from all these EU and CELAC countries participated in each project except Spain which had two institutions in project, Finland which was involved in just one project with representation from two organisations and Italy which was represented by two organisations in two projects each. The average grant awarded for these projects was €135 664.80 (minimum=€76 000 and maximum=€228 884)

Eight countries from the EU and CELAC participated in the two projects funded under the action type in "strategic partnerships for higher education". The CELAC countries involved were Argentina (n=3), Brazil (n=1) and Mexico (n=2). Brazil and Mexico were involved in just one of the two projects each, while Argentina was involved in both projects with a participation of one institution in one of the projects and two in the other one. The five EU Member States that were involved in these projects

[35] This is the same number of projects as the ones analysed for the next chapter using a different dataset (2015-2018) was used that provided more thematically related information. The projects are the same as although the dataset used in the analyses of Erasmus+ key action 2 had project information from 2014 to 2018, there were no projects with EU-CELAC participation in capacity building in higher education funded in 2014.

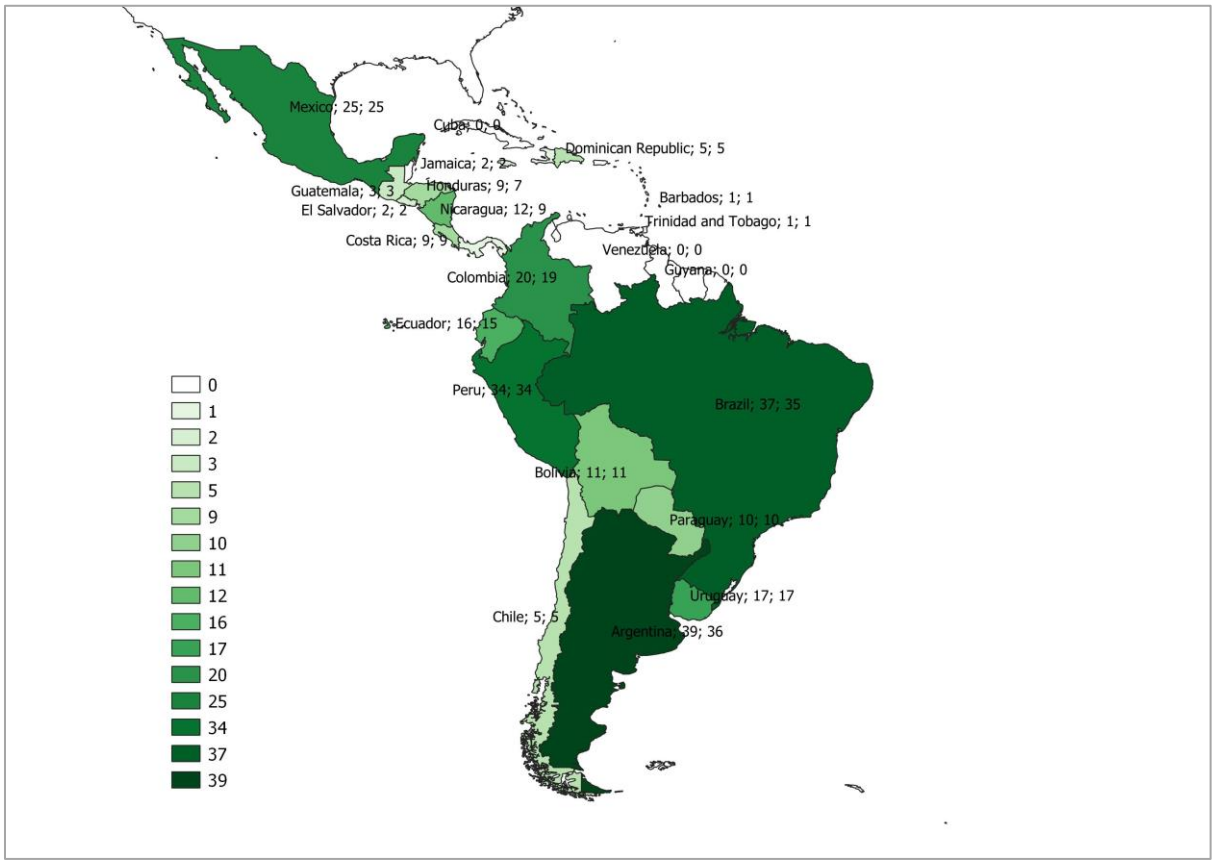
include France, Germany and Slovenia (n=1 each), Spain (n=2) and Italy n=4). Spain was the only EU Member State to participate in both projects. The average grant awarded was €322 206.50.

The one project funded under the action type “knowledge alliances for higher education” involved Colombia as the only CELAC country with an involvement of two Colombian universities as well as Greece, Italy and Slovenia (n=2 each) and Spain (n=3) as the only EU Member States. The grant awarded for this project was the highest of all the projects in the Erasmus+ KA2 programme with just under €1 million.

Peru together with Belgium, France and Portugal took part in the one project funded under the action “strategic partnerships for school education”. Peru was represented by one organisation whereas the three EU Member States were represented by two organisations each. This project had the third highest grant of just over €420 000.

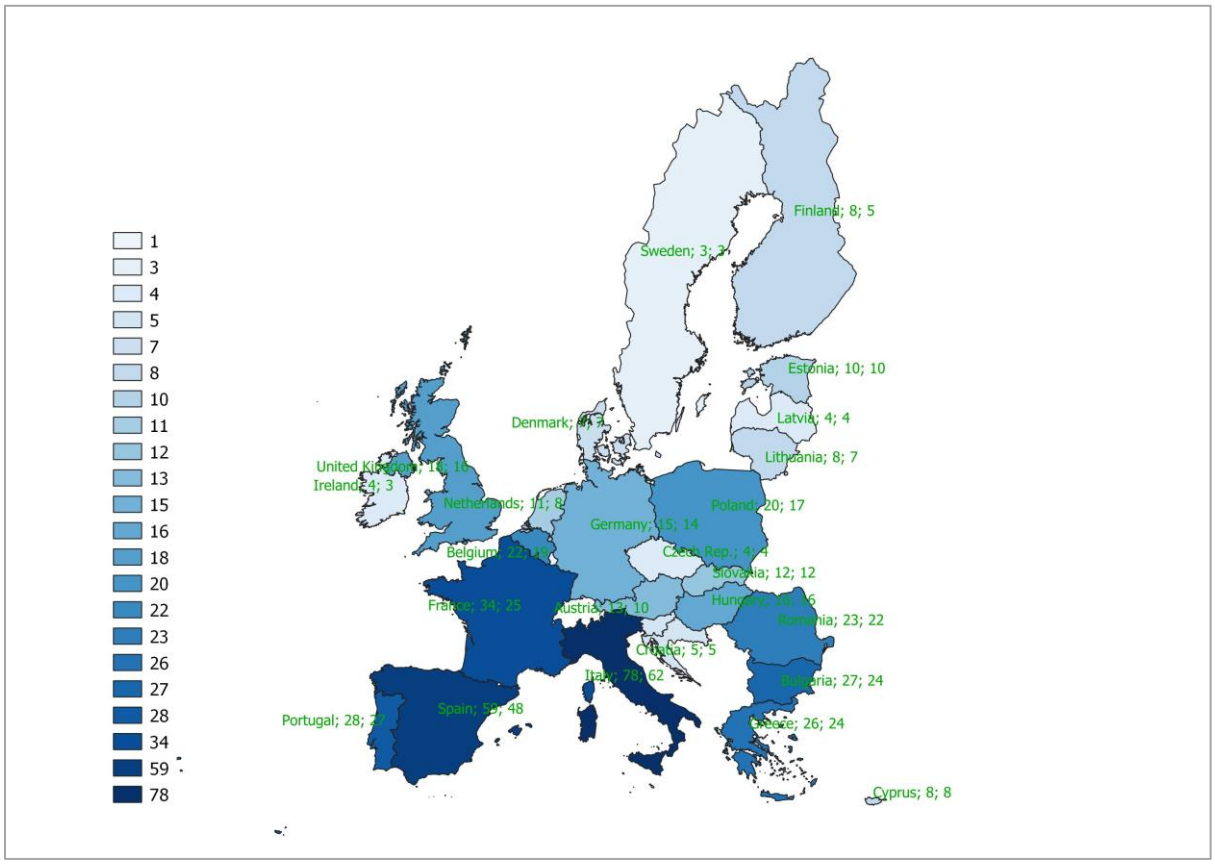
Of the 26 CELAC countries that were active in Erasmus+ KA2 programme, four countries did not take part in the “capacity Building for youth in ACP countries, Latin America and Asia” action: Cuba, Guyana, Suriname and Venezuela. The first three countries fall under the category of “low cooperation” countries; while the fourth, Cuba is grouped under “medium cooperation” countries in terms of its total participation in Erasmus+ key action 2 between 2014 and 2018. The biggest CELAC player in this action was Argentina with 39 instances of participation in 36 projects followed by Brazil with 37 instances of participation in 35 countries, Peru with 34 instances of participation in 34 projects, Mexico with 25 instances of participation in 25 projects and Colombia with 20 instances of participation in 19 projects. All these five countries with the highest instances of cooperation belong to the group of countries with “very high cooperation”. The rest of the countries were ranked in more or less the same order as the group of level of cooperation that that they belonged to. For example, the next six countries with the highest instances of participation in this programme were all from the “high cooperation” countries: Uruguay (n=17), Ecuador (n=16), Nicaragua (n=12), Bolivia (n=11), Paraguay (n=10) and Costa Rica (n=9). The only exceptions were Chile and Panama. Considering all the Erasmus+ KA2 projects together, Chile is classified under “very high cooperation” countries, however, the number of instances of participation that it had in this action (n=5 in five projects) warranted it to be ranked in between the “medium cooperation” countries. In the same thread, taking all the Erasmus+ KA2 (2014-2018) projects together, panama belongs to the “high cooperation” countries. However, it was only involved in one instance of cooperation in this programme hence being placed together with the “low cooperation” countries (Figure 62).

Figure 57: Participation of CELAC countries in Erasmus+ KA2 (2014-2018): Capacity Building for youth in ACP countries, Latin America and Asia by instances of participation



Examining the participation of EU Member States in Erasmus+ KA2's action on capacity Building for youth in ACP countries, Latin America and Asia, a more mixed pattern as compared to CELAC can be observed when comparing the instances of participation and projects in this action by the overall ranking of EU Member States in Erasmus+ KA2 (2014-2018). All the EU Member States involved in this programme, were also involved in this specific action (Figure 58). Overall, Spain was the most active EU Member State in Erasmus+ KA2. For this specific action, Italy, which was the second player overall overtook Spain to take the first place with a total of 78 instances of participation in 62 projects compared to Spain's 59 instances of participation in 48 projects. The top 4 EU Member States involved in this action are four of the seven countries categorised as "very high cooperation" countries: Italy (n=78), Spain (n=59), France (n=34) and Portugal (n=25). The other three "very high cooperation countries": Belgium (n=22), the United Kingdom (n=18) and Germany (n=15) were overtaken by some countries belonging to the second group of cooperation countries "high cooperation" (Bulgaria=27, Greece=26, Romania=23 and Poland=20) and one country from the third group; "medium cooperation" countries: Hungary (n=16). The Netherlands belonging to the "high cooperation countries" had lower instances of cooperation than two countries from the third group "medium cooperation countries": Hungary (n=16) and Slovakia (n=12). The classification of the rest of the EU Member States that belong to the third and fourth levels of cooperation "medium cooperation" and "low cooperation" were consistent except for Denmark (n=7 in seven projects) and Slovenia (n=5 in four projects), medium cooperation countries that had slightly less instances of participation and projects than two "low cooperation" countries: Lithuania (n=7 in seven projects) and Croatia (n=5 in five projects).

Figure 58: Participation of EU Member States in projects in Erasmus+ KA2 (2014-2018): Capacity Building for youth in ACP countries, Latin America and Asia with CELAC countries by instances of participation



On average, the total grant awarded for projects in this action type was: €129 232.22, with the lowest grant awarded being €36 933 and the highest €150 000.

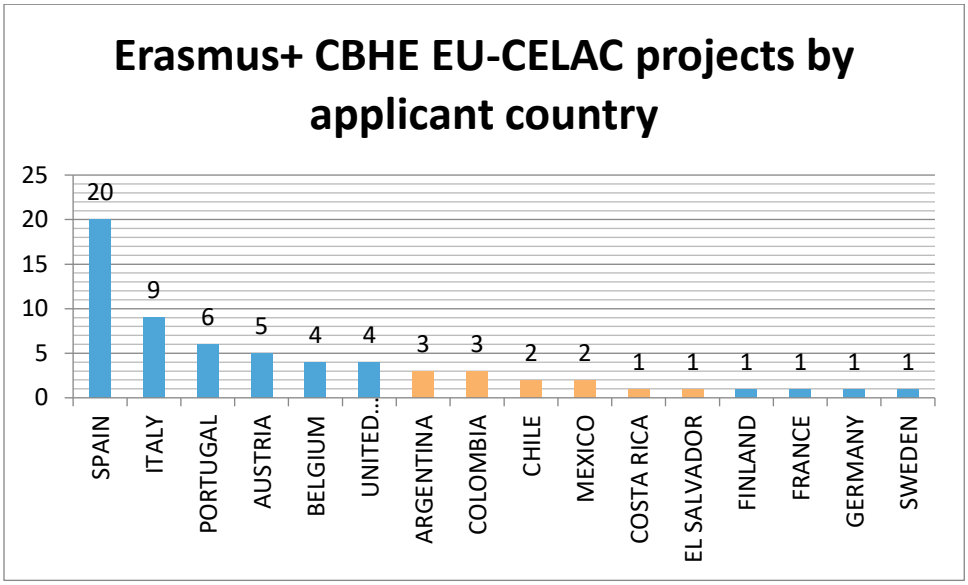
7.2.3 Special Focus – Key Action 2 - Capacity building in higher education

In this section of the report, the focus is on the the fourth action of Key Action 2: "Capacity building in the field of higher education", analysing EU-CELAC projects from 2015 to 2018. This sub-action is especially interesting as it targets HEI and enables bi-regional cooperation and working work together, to develop, share and transfer best practices and innovative approaches in the fields of education, making the CRA a reality and strengthening capacities of HEI in a long-term perspective.

7.2.3.1 Geographic clustering

From 2015 to 2018, 64 Erasmus+ projects in capacity building in higher education with both EU and CELAC participation were at different stages of implementation. 12 (18.8%) of the projects were coordinated by an institution from CELAC whereas the rest (n=52 or 81.3%), were coordinated by institutions from the European Member States; Spain coordinated 20 projects, Italy nine, Portugal 6, Austria 5, Belgium and the United Kingdom four each, Argentina and Colombia three each, Chile and Mexico two each and Costa Rica, El Salvador, Finland, France, Germany and Sweden each coordinated one project.

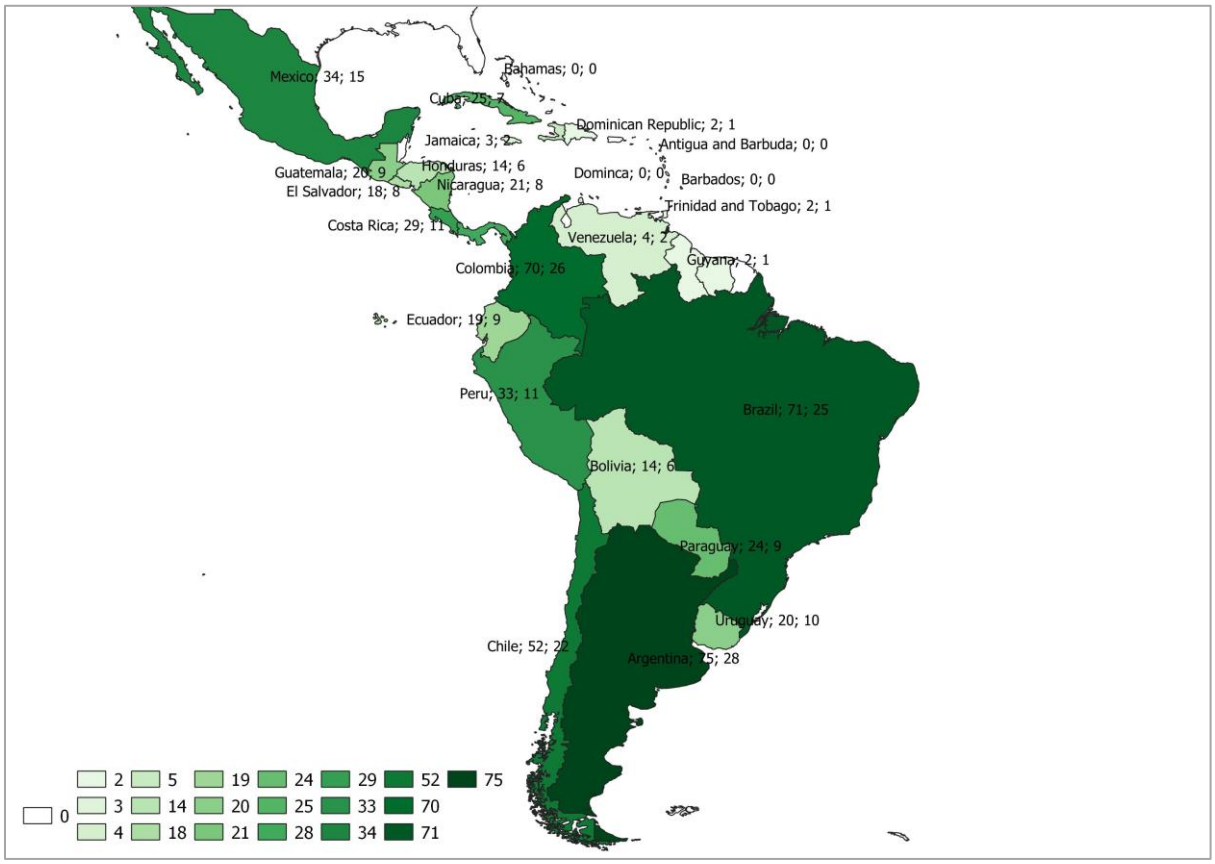
Figure 59:Erasmus+ capacity building in higher education projects (2015-2018) by applicant country



Of the 33 CELAC countries, 24 countries participated in a minimum of one project and a maximum of 28 projects. All 12 South American countries[36] took part in capacity building in higher education projects during this period, seven of the eight Central and North American countries also participated (exception is Belize) and only four (Cuba, Dominican Republic, Jamaica and Trinidad and Tobago) of the 13 Caribbean states were engaged in projects under this topic (Figure 60).

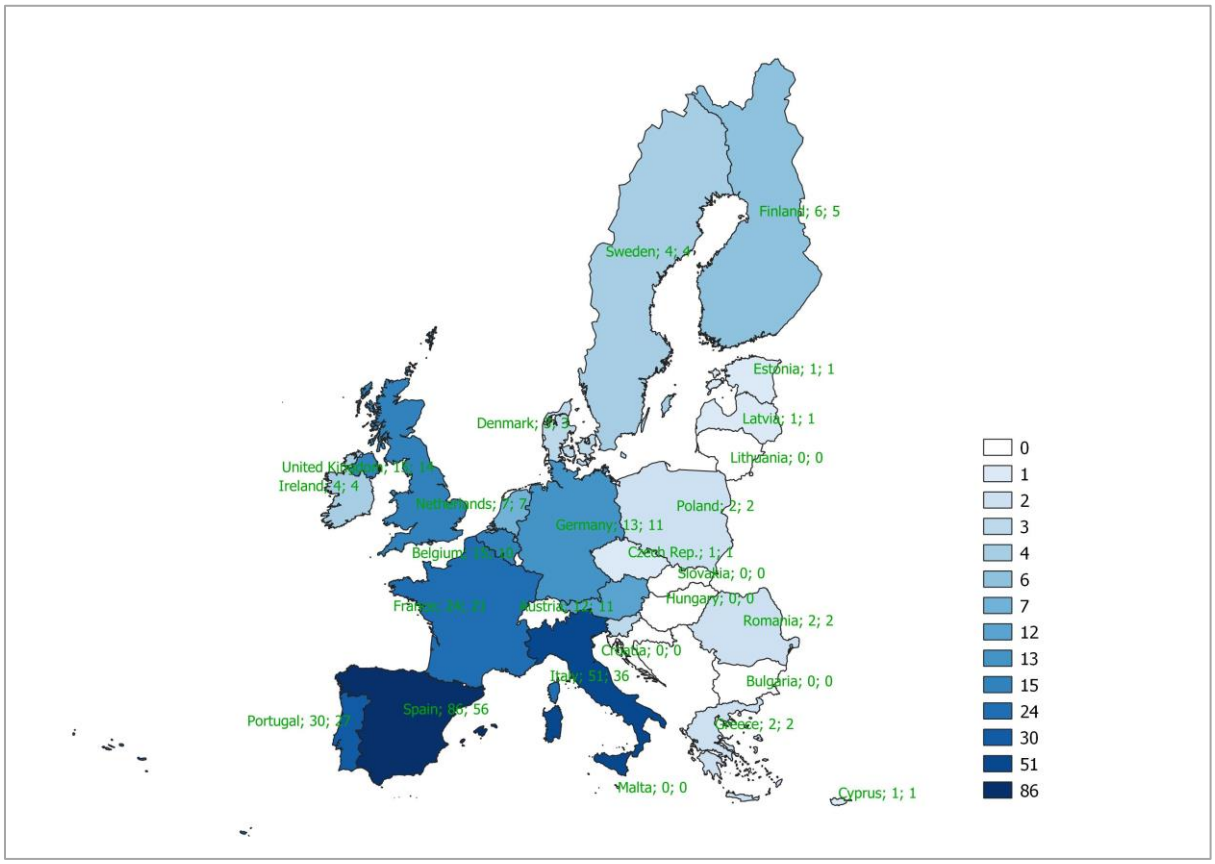
[36] South American countries: Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay and Venezuela
Central and North American countries: Belize, Costa Rica, El Salvador, Guatemala, Honduras, Mexico, Nicaragua and Panama
Caribbean states: Antigua & Barbuda, Bahamas, Barbados, Cuba, Dominica, Dominican Republic, Grenada, Haiti, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent and the Grenadines and Trinidad & Tobago

Figure 60: Participation of CELAC countries in Erasmus+ Capacity Building in Higher Education between 2015 and 2018 [Name of country; number of total participations; number of projects]



In these 64 projects, 21 of the 28 EU Member States were involved. Bulgaria, Croatia, Hungary, Lithuania, Luxembourg, Malta and Slovakia were the countries not involved in the Erasmus+ projects on capacity building in higher education with CELAC countries (see Figure 61).

Figure 61: Participation of EU Member States in Erasmus+ Capacity Building in Higher Education with CELAC countries between 2015 and 2018 [Name of country; number of total participations; number of projects]



Like in the Horizon 2020 programme, Spain was the most active EU Member States in projects with CELAC participation with a total of 86 instances of participation translating to 56 projects (see Table 27). Italy was the second most active EU Member State with 51 instances of participations in 36 projects. Both the number of projects with the involvement of Spain and Italy with CELAC participation was higher than any of the CELAC countries. For instance, Argentina was the biggest CELAC player with 75 instances of participation but in just 28 projects; both Spain and Italy participated in more projects (56 and 36 respectively), however, Argentina had more instances of participations than Italy, ranking second overall in terms of participation in EU-CELAC participation in projects on capacity building in higher education. Likewise, Brazil (n=71), Colombia (n=70) and Chile (n=72) all had higher instances of participation than Italy but were involved in less projects; 25, 26 and 22 projects respectively.

Considering the interquartile range of the instances of participations of CELAC countries, Argentina, Brazil, Colombia, Chile together with Mexico (n=34) and Peru (n=33) form the group of countries with "very high cooperation". The following group of countries had a lower rate of participation in capacity building in higher education projects, but overall still relatively high: Costa Rica (n=29), Panama (n=28), Cuba (n=25), Paraguay (n=24) and Nicaragua (n=21). Medium cooperation countries included: Uruguay (n=20), Guatemala (n=20), Ecuador (n=19), El Salvador (n=18), Honduras (n=14) and Bolivia (n=14). Haiti (n=5), Venezuela (n=4), Jamaica (n=3), Trinidad and Tobago (n=2), Suriname (n=2), Guyana (n=2) and the Dominican Republic (n=2) were grouped as low cooperation countries in the framework of Erasmus+ capacity building in higher education projects between 2015 and 2018 (see Table 28).

Table 27: EU Member States by level of cooperation in projects involving CELAC countries in Erasmus+ capacity building in higher education

Location	Participation	Projects	
Bulgaria	0	0	No cooperation
Croatia	0	0	
Hungary	0	0	
Lithuania	0	0	
Luxembourg	0	0	
Malta	0	0	
Slovakia	0	0	
Cyprus	1	1	Low cooperation
Czech Republic	1	1	
Estonia	1	1	
Latvia	1	1	
Greece	2	2	
Poland	2	2	
Romania	2	2	
Denmark	3	3	Medium cooperation
Slovenia	3	3	
Ireland	4	4	
Sweden	4	4	
Finland	6	5	High cooperation
Netherlands	7	7	
Austria	12	11	
Germany	13	11	
Belgium	15	10	
United Kingdom	15	14	
France	24	21	Very high cooperation
Portugal	30	27	
Italy	51	36	
Spain	86	56	

Table 28: CELAC countries by level of cooperation in Erasmus+ capacity building in higher education

Country	Participation	Projects	
Antigua and Barbuda	0	0	No cooperation
Bahamas	0	0	
Barbados	0	0	
Belize	0	0	
Dominica	0	0	
Grenada	0	0	
St. Lucia	0	0	
St. Kitts and Nevis	0	0	
St. Vincent and the Grenadines	0	0	

Dominican Republic	2	1	Low cooperation
Guyana	2	1	
Suriname	2	1	
Trinidad and Tobago	2	1	
Jamaica	3	2	
Venezuela	4	2	
Haiti	5	1	
Bolivia	14	6	Medium cooperation
Honduras	14	6	
El Salvador	18	8	
Ecuador	19	9	
Guatemala	20	9	
Uruguay	20	10	
Nicaragua	21	8	High cooperation
Paraguay	24	9	
Cuba	25	7	
Panama	28	12	
Costa Rica	29	11	
Peru	33	11	Very high cooperation
Mexico	34	15	
Chile	52	22	
Colombia	70	26	
Brazil	71	25	
Argentina	75	28	

Other than the EU Member States and LAC countries involved in these 64 projects, China, Georgia, India and Norway were also involved with two instances of participation in one project each and South Africa with eight instances of participation over three projects.

From a total of 587 instances of participation involving CELAC countries in Erasmus+ capacity building in higher education between 2015 and 2018, 337 institutions were involved. 62.1% (n=208) of the institutions were involved in a single project. Instituto Technológico de Costa Rico was the most active of the CELAC institutions with eight instances of participations, followed by Universidad de la República and Universidad Nacional del Sur each with seven instances of participation each. Ranking all the institutions according to their instances of participation, 28 institutions from 13 countries were ranked as the top five. Argentina had the most institutions in this ranking; namely four. Interestingly, Panama and Nicaragua ("high cooperation" countries) together with Brazil and Chile ("very high cooperation" countries) had the second most number of institutions in the top five; namely three each. The medium cooperation countries: Uruguay and Guatemala with two institutions each and El Salvador and Honduras with one institution each also made the top five list. None of the low cooperation countries had institutions included in this ranking (see Table 29).

Table 29: Top five ranking of CELAC institutions involved in Erasmus+ capacity building in higher education between 2015 and 2018

Institution	Country	Instances of participation	Rank
INSTITUTO TECNOLOGICO DE COSTA RICA	Costa Rica	8	1
UNIVERSIDAD DE LA REPUBLICA	Uruguay	7	2
UNIVERSIDAD NACIONAL DEL SUR	Argentina	7	2
UNIVERSIDAD DE COSTA RICA	Costa Rica	6	3
UNIVERSIDAD DE EL SALVADOR	El Salvador	6	3
UNIVERSIDAD DE PANAMA	Panama	6	3
UNIVERSIDAD IBEROAMERICANA	Mexico*	6	3
UNIVERSIDAD NACIONAL DEL LITORAL	Argentina	6	3
UNIVERSIDADE FEDERAL DO RIO DE JANEIRO	Brazil	6	3
UNIVERSIDAD DE ANTIOQUIA	Colombia	5	4
UNIVERSIDAD DE PIURA	Peru	5	4
UNIVERSIDAD NACIONAL AUTONOMA DE HONDURAS	Honduras	5	4
UNIVERSIDAD NACIONAL AUTONOMA DE NICARAGUA, LEON	Nicaragua	5	4
UNIVERSIDAD NACIONAL DE ROSARIO - UNR	Argentina	5	4
UNIVERSIDAD RAFAEL LANDIVAR	Guatemala	5	4
UNIVERSIDAD VINA DEL MAR	Chile	5	4
UNIVERSIDADE ESTADUAL PAULISTA JULIO DE MESQUITA FILHO	Brazil	5	4
ASOCIACION URUGUAYA ORT - UNIVERSIDAD ORT URUGUAY	Uruguay	4	5
INSTITUTO TECNOLOGICO Y DE ESTUDIOS SUPERIORES DE MONTERREY	Mexico	4	5
PONTIFICIA UNIVERSIDAD CATOLICA DE CHILE	Chile	4	5
UNIVERSIDAD AMERICANA ASOCIACION	Nicaragua	4	5
UNIVERSIDAD ESPECIALIZADA DE LAS AMERICAS	Panama	4	5
UNIVERSIDAD GALILEO	Guatemala	4	5
UNIVERSIDAD NACIONAL AUTONOMA DE NICARAGUA MANAGUA	Nicaragua	4	5
UNIVERSIDAD NACIONAL DE CORDOBA	Argentina	4	5
UNIVERSIDAD SANTA MARIA LA ANTIGUA	Panama	4	5
UNIVERSIDAD TECNICA FEDERICO SANTA MARIA	Chile	4	5
UNIVERSIDADE DE SAO PAULO	Brazil	4	5

In terms of institutions from the European Member States involved in Erasmus+ capacity building in higher education (2015-2018) education projects with CELAC countries, of the 283 instances of participation, 188 institutions were involved. 136 or 48% of the institutions were only involved in a single instance. Alma Mater Studiorum – Universitat de Bologna from Italy and Universidad de Alicante from Spain were jointly the top performers with eight instances of participation each from the 21 institutions included in the top five ranking. Spain had a total of eight out of 21 institutions in the top five ranking, followed by Italy with four, Portugal with three, Belgium with two and Austria, the United Kingdom, Denmark and Ireland with one institution each (see Table 30). Worth noting, is that France was the only “very high cooperation” country without an institution in the top five ranking.

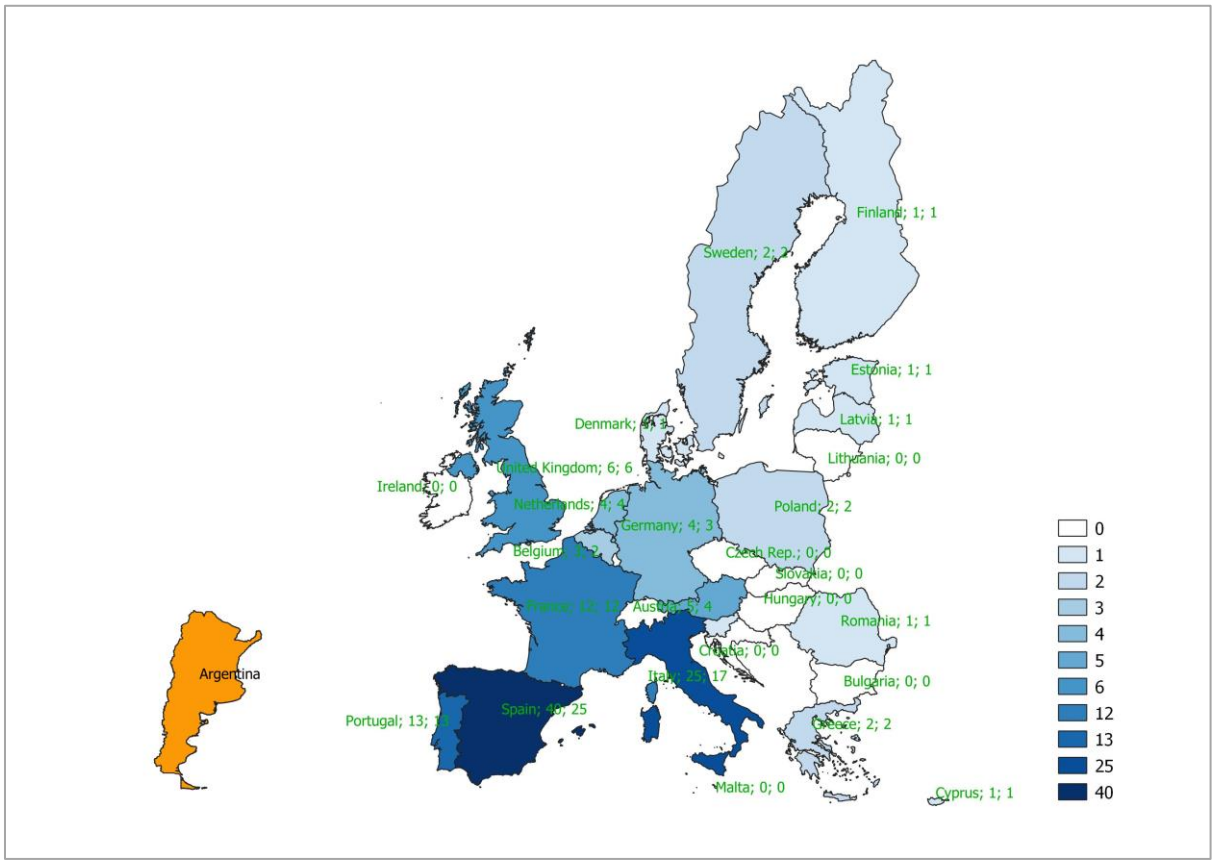
Table 30:Top five ranking of institutions from EU Member States involved in Erasmus+ capacity building in higher education projects (2015-2018) with CELAC participation

Institution	Country	Instances of participation	Ranking
ALMA MATER STUDIORUM - UNIVERSITA DI BOLOGNA	Italy	8	1
UNIVERSIDAD DE ALICANTE	Spain	8	1
UNIVERSIDADE DO PORTO	Portugal	7	2
UNIVERSITA DEGLI STUDI DI ROMA LA SAPIENZA	Italy	5	3
UNIVERSITAT AUTONOMA DE BARCELONA	Spain	5	3
ASOCIACION OBSERVATORIO DE LAS RELACIONES UNION EUROPEA AMERICA LATINA (UE/AL)	Spain	4	4
FH JOANNEUM GESELLSCHAFT MBH	Austria	4	4
THE GLASGOW CALEDONIAN UNIVERSITY	United Kingdom	4	4
UNIVERSITAT DE BARCELONA	Spain	4	4
AALBORG UNIVERSITET	Denmark	3	5
AGENCIA NACIONAL DE EVALUACION DE LA CALIDAD Y ACREDITACION (ANECA)	Spain	3	5
POLITECNICO DI TORINO	Italy	3	5
UNIVERSIDAD CARLOS III DE MADRID	Spain	3	5
UNIVERSIDAD COMPLUTENSE DE MADRID	Spain	3	5
UNIVERSIDAD DE LA IGLESIA DE DEUSTO ENTIDAD RELIGIOSA	Spain	3	5
UNIVERSIDADE DE LISBOA	Portugal	3	5
UNIVERSIDADE NOVA DE LISBOA	Portugal	3	5
UNIVERSITA CATTOLICA DEL SACRO CUORE	Italy	3	5
UNIVERSITEIT ANTWERPEN	Belgium	3	5
UNIVERSITEIT GENT	Belgium	3	5
UNIVERSITY COLLEGE CORK - NATIONAL UNIVERSITY OF IRELAND, CORK	Ireland	3	5

The section below shows to what degree EU Member States cooperated with the seven selected CELAC countries (Argentina, Brazil, Chile, Colombia, Costa Rica, Ecuador and Jamaica) cooperate with and to what degree.

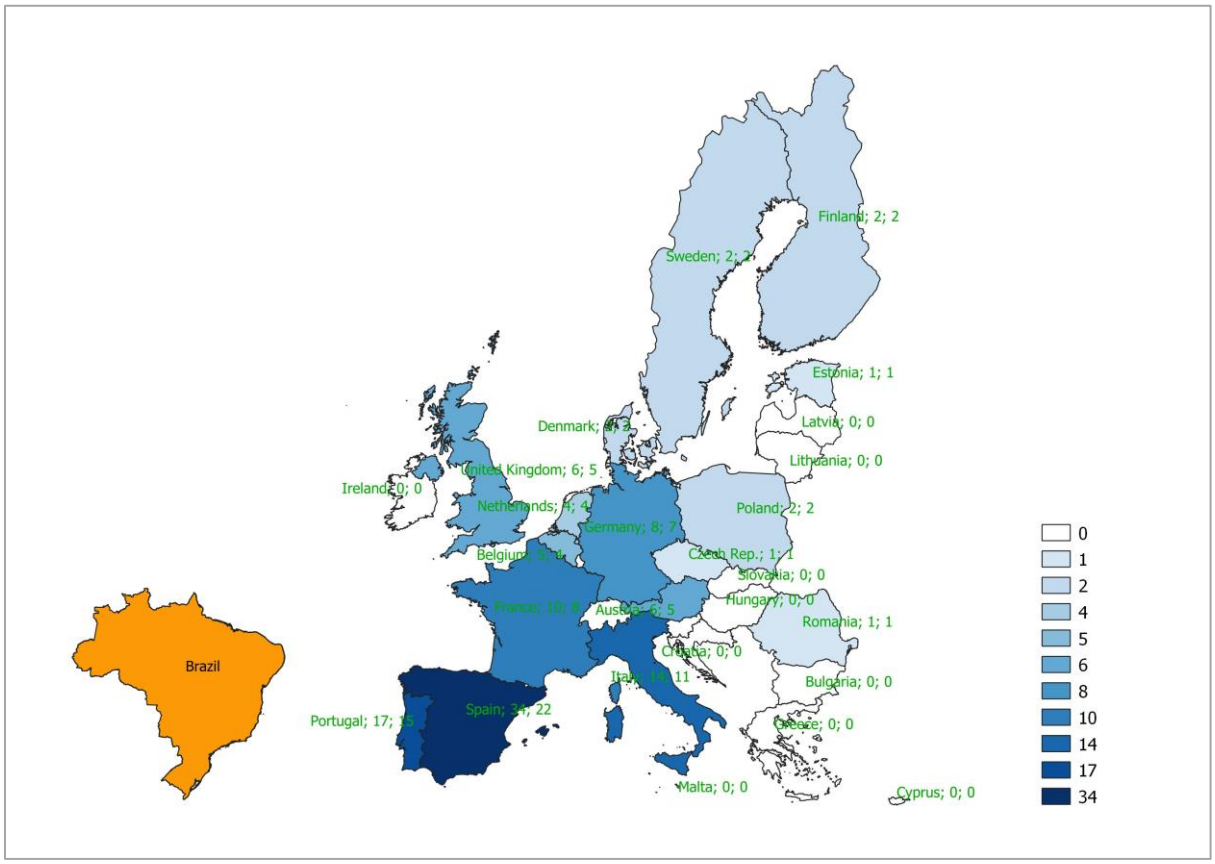
Argentina was involved in 28 projects with 75 instances of participations. In these projects, it cooperated with 19 of the 21 EU Member States involved in Erasmus+ capacity building in the field of higher education. The exceptions were the Czech Republic and Ireland. Considering the overall rate of participation, as expected the strongest collaborators were all four EU Member States ranked as having "very high cooperation": Spain (n=40), Italy (n=25), Portugal (n=13) and France (n=12). With regards to the countries ranked as having "high cooperation" there are indications that Argentina had a stronger collaboration with Austria (n=5) than Belgium (n=3) and Germany (n=4) both countries which in total have higher instances of participation in Erasmus+ capacity building in higher education projects (2015-2018) with CELAC participation; namely 15 and 13 respectively, than Austria which had 12 total instances of participations in these projects. Interestingly although Finland is also ranked as a "high cooperation" country, it only collaborated with Argentina in one instance (Figure 62).

Figure 62: EU Member States collaborating with Argentina in Erasmus+ capacity building in higher education[Name of country; number of total participations; number of projects]



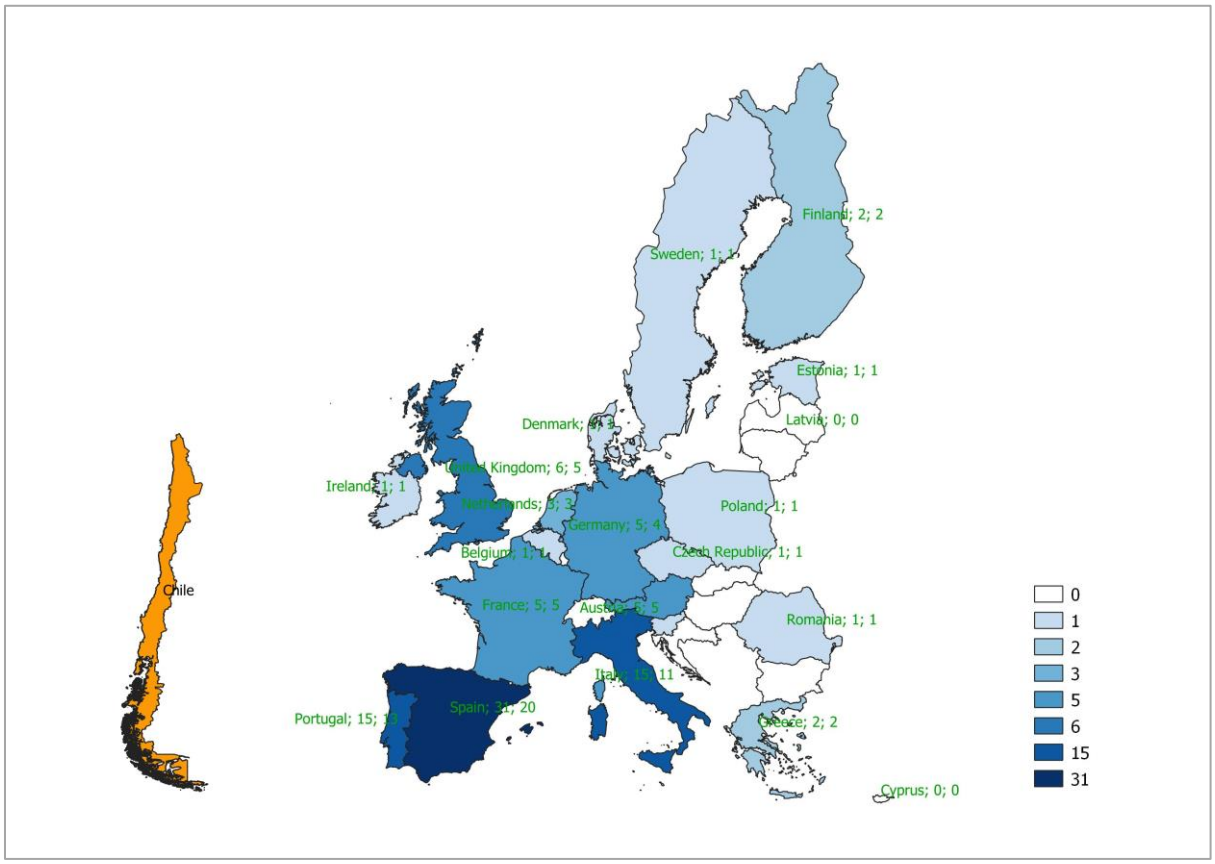
Of the 25 projects in Erasmus+ capacity building in higher education that Brazil was involved in, it collaborated with 16 of the 21 EU Member States that participated in this programme between 2015 and 2018. The five EU Member States other than those that did not participate in this programme at all were: Cyprus, Greece, Ireland, Latvia and Slovenia. Brazil's strongest cooperation partner was Spain with 34 instances of cooperation followed by Portugal with 17, Italy with 14 and France with 10 (see Figure 63. These are the same four countries classified as "very high cooperation" countries in this programme. Unlike Argentina which cooperated with these countries in their order of classification, Brazil for example seems to have stronger ties with Portugal in this framework than Italy. Brazil's cooperation with Portugal (n=17) looks stronger than that between Argentina and Portugal (n=13) altogether in this programme in the specified time.

Figure 63: EU Member States collaborating with Brazil in Erasmus+ capacity building in higher education[Name of country; number of total participations; number of projects]



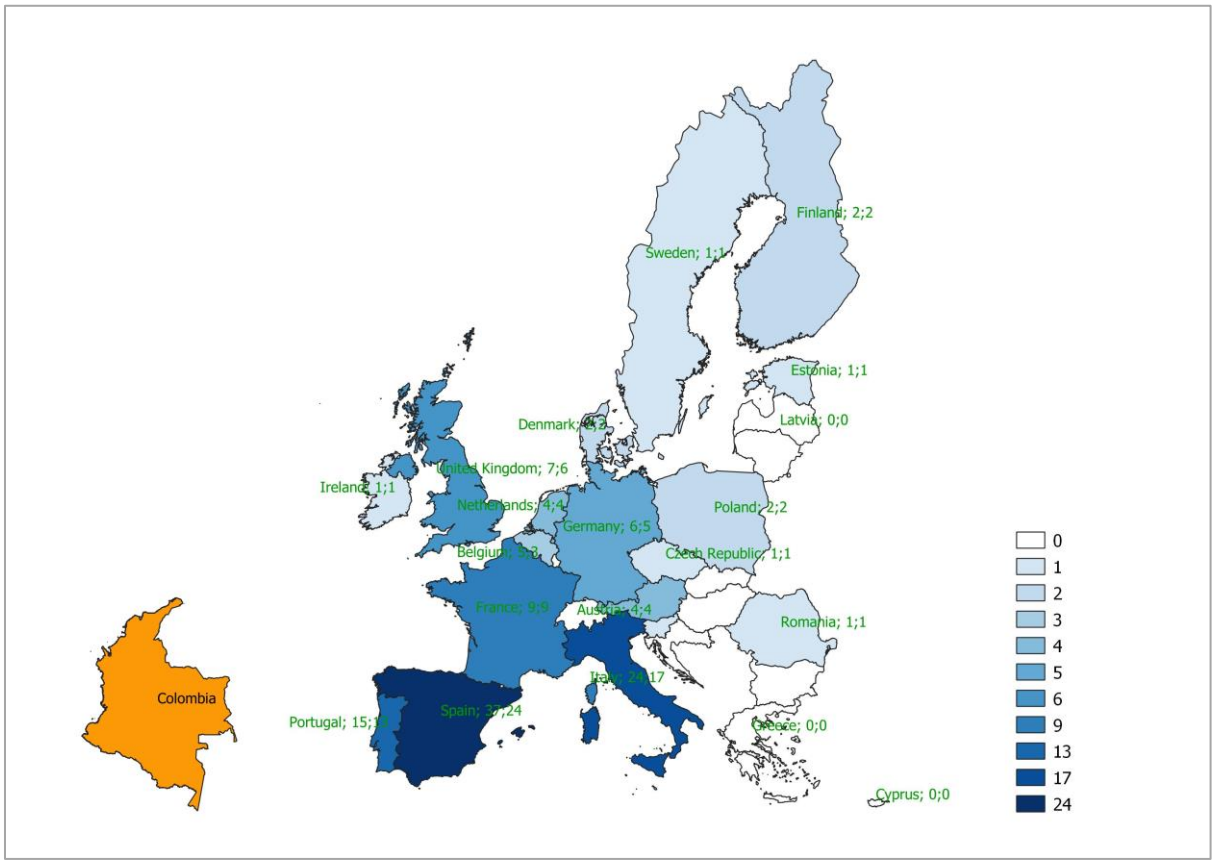
Cyprus and Latvia were the only two of the 21 EU Member States that participated in Erasmus+ capacity building in higher education that did not cooperate with Chile (see Figure 64). Like with Argentina and Brazil, Spain was the biggest cooperation partner with Chile with 31 instances of cooperation in 20 projects. Italy and Spain both with 15 instances of cooperation in 11 and 13 projects each cooperated with Chile the most after Spain. These countries were three of the four classified as having "very high cooperation". The other country belonging to this group was France which in relation to cooperation with Chile came after the United Kingdom with five instances of cooperation compared to six for the United Kingdom. Similarly, the United Kingdom had six instances of cooperation each with Argentina and Brazil.

Figure 64: EU Member States collaborating with Chile in Erasmus+ capacity building in higher education[Name of country; number of total participations; number of projects]



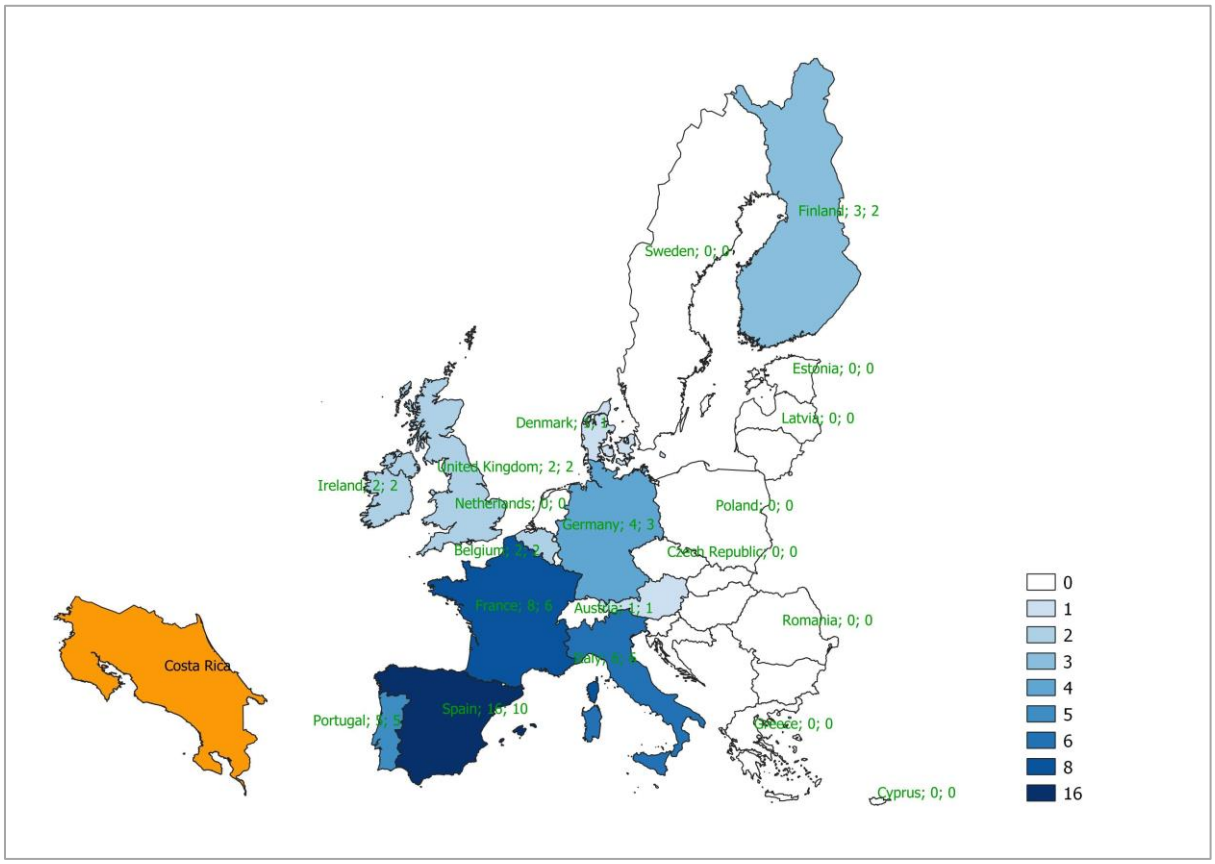
Like Chile, out of the EU Member States that participated in Erasmus+ capacity building in higher education with CELAC countries, Colombia also did not cooperate with Cyprus and Latvia and additionally Greece. Similar to Argentina, the EU Member States categorised as "very high cooperation" countries and in the order of their classification were the biggest cooperation partners for Colombia: Spain (n=37), Italy (n=24), Portugal (n=15) and France (n=9). Colombia had a stronger collaboration with Spain (n=37) compared to the cooperation between Brazil and Spain (n=34) and Chile and Brazil (n=31) but slightly lower than that of Argentina and Spain (n=40). The rate of cooperation between Colombia and Italy (n=24) was just short of that between Argentina and Italy (n=25) and higher than that between Brazil and Italy (n=14) as well as between Chile and Italy (n=15). The United Kingdom was also a relatively strong cooperation partner for Colombia with seven instances of cooperation just higher than that with Argentina, Brazil and Chile (n=6 each).

Figure 65: EU Member States collaborating with Colombia in Erasmus+ capacity building in higher education[Name of country; number of total participations; number of projects]



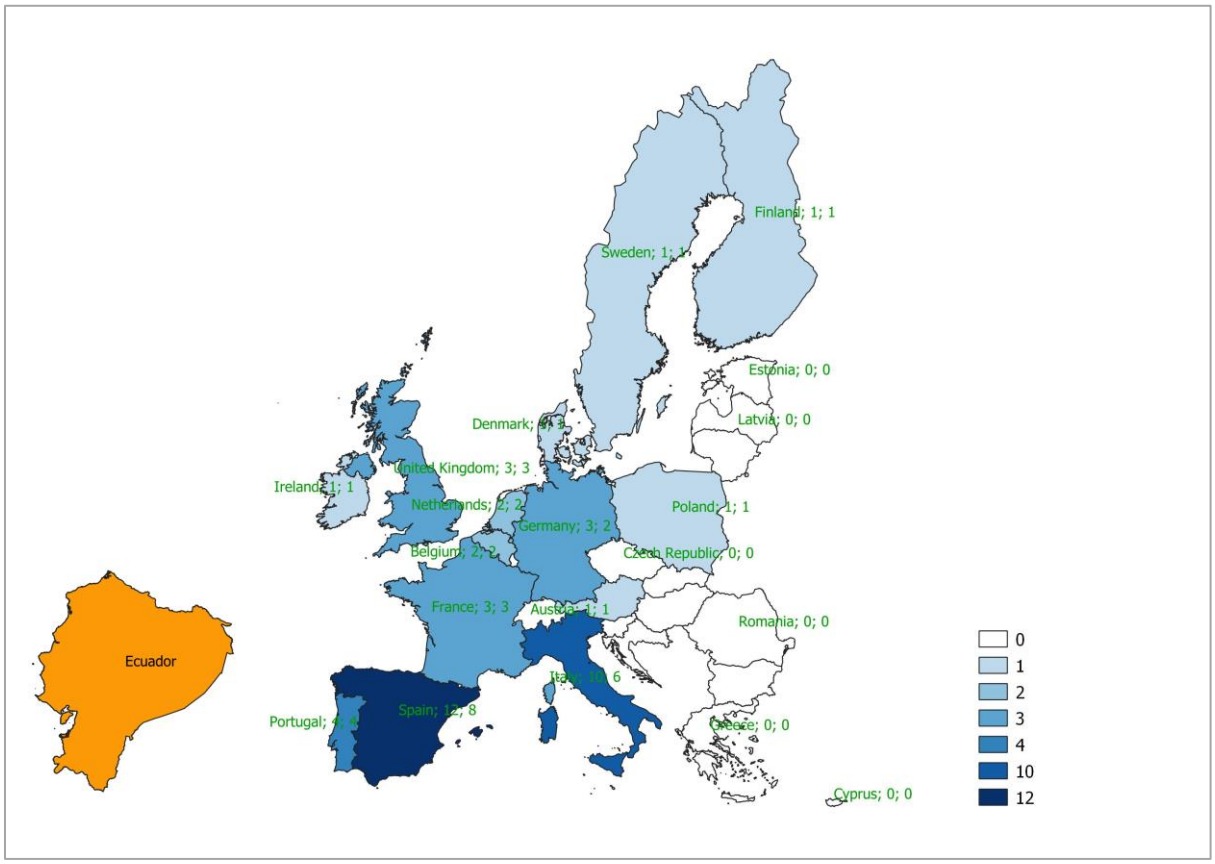
In the Erasmus+ capacity building in higher education programme between 2015 and 2018, Costa Rica collaborated with 11 of the 21 EU Member States that were in projects with CELAC countries. The 10 countries that Costa Rica did not collaborate with were: Cyprus, Czech Republic, Estonia, Greece, Latvia, the Netherlands, Poland, Romania, Slovenia and Sweden (see Figure 66). All the four countries categorised as "very high cooperation" countries were also Costa Rica's strongest associates in Erasmus+ capacity building in higher education but in a different order to that of their classification. Spain was the strongest collaborator of Costa Rica with 16 instances of participation in 10 projects followed by France (n=8), Italy (n=6) and Portugal (n=5). In comparison to Chile which was involved in double the number of projects Costa Rica was involved in; namely 22 compared to 11, Costa Rica had a stronger collaboration with France (n=8 compared to n=5 for Chile).

Figure 66: EU Member States collaborating with Costa Rica in Erasmus+ capacity building in higher education[Name of country; number of total participations; number of projects]



In Erasmus+ on capacity building in higher education (2015-2018), Ecuador was classified as a "medium cooperation" country with 19 instances of participation in nine projects. Like with the other countries described above, the "very high cooperation" EU Member States cooperated with it most and also in the order according to which they were classified. Spain was first with 12 instances of cooperation, Italy second with 10, Portugal third with four and France with three. Worth noting is that Germany and the United Kingdom also cooperated with Ecuador to the same intensity as France did, each with three instances of participation, for Germany this was in two projects and for France and the United Kingdom in three. The cooperation of Ecuador with Italy (n=10) seems stronger than that between Costa Rica and Italy (n=6), although Costa Rica falls under "high cooperation" countries. Of the 21 EU Member States that participated in projects with CELAC countries in the Erasmus+ capacity building in higher education programme (2015-2018), Ecuador did not cooperate with 7: Cyprus, Czech Republic, Estonia, Greece, Latvia, Romania and Slovenia.

Figure 67: EU Member States collaborating with Ecuador in Erasmus+ capacity building in higher education[Name of country; number of total participations; number of projects]



Jamaica participated in three instances translating to two projects between 2015 and 2018 in the Erasmus+ on capacity building in higher education programme. In these two projects, the EU Member States involved included: Belgium and Italy (n=2 each) and Denmark, France and Spain (n=1 each).

Figure 68: EU Member States collaborating with Jamaica in Erasmus+ capacity building in higher education[Name of country; number of total participations; number of projects]

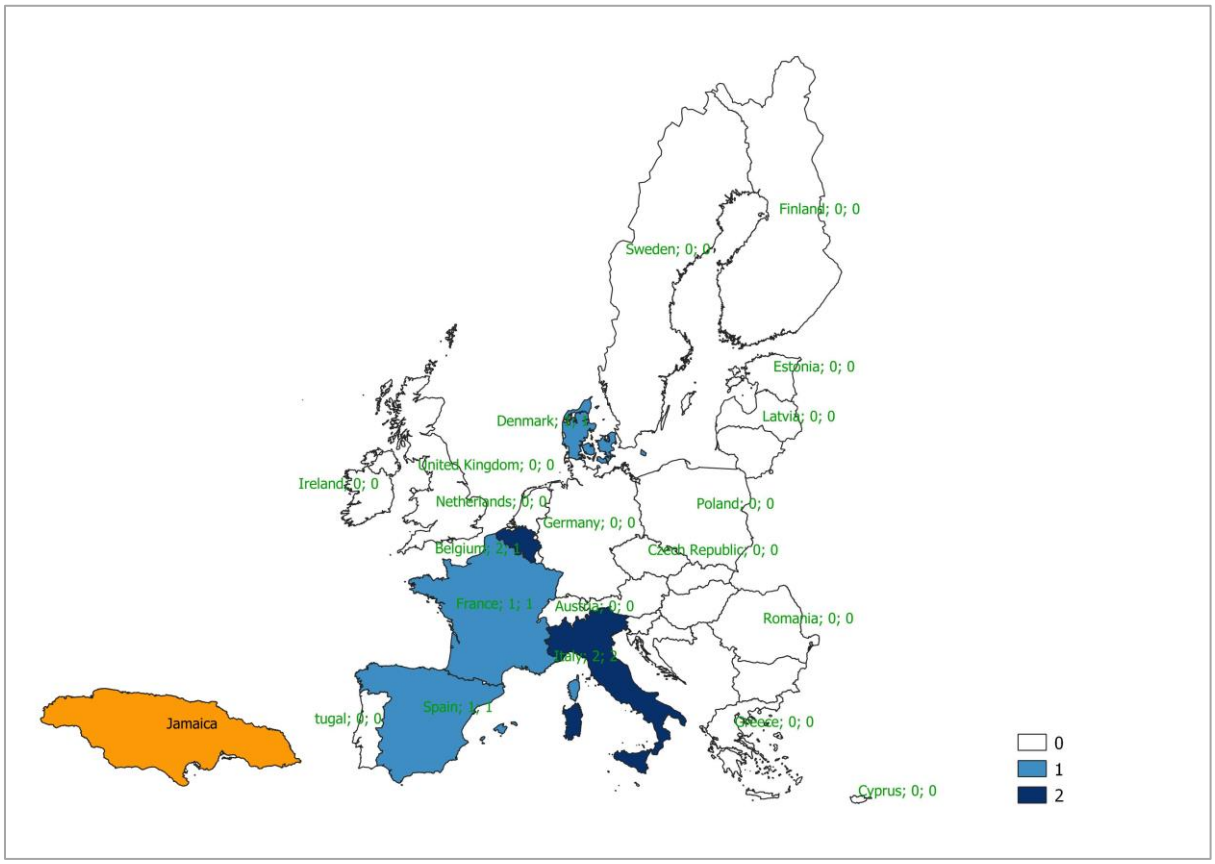


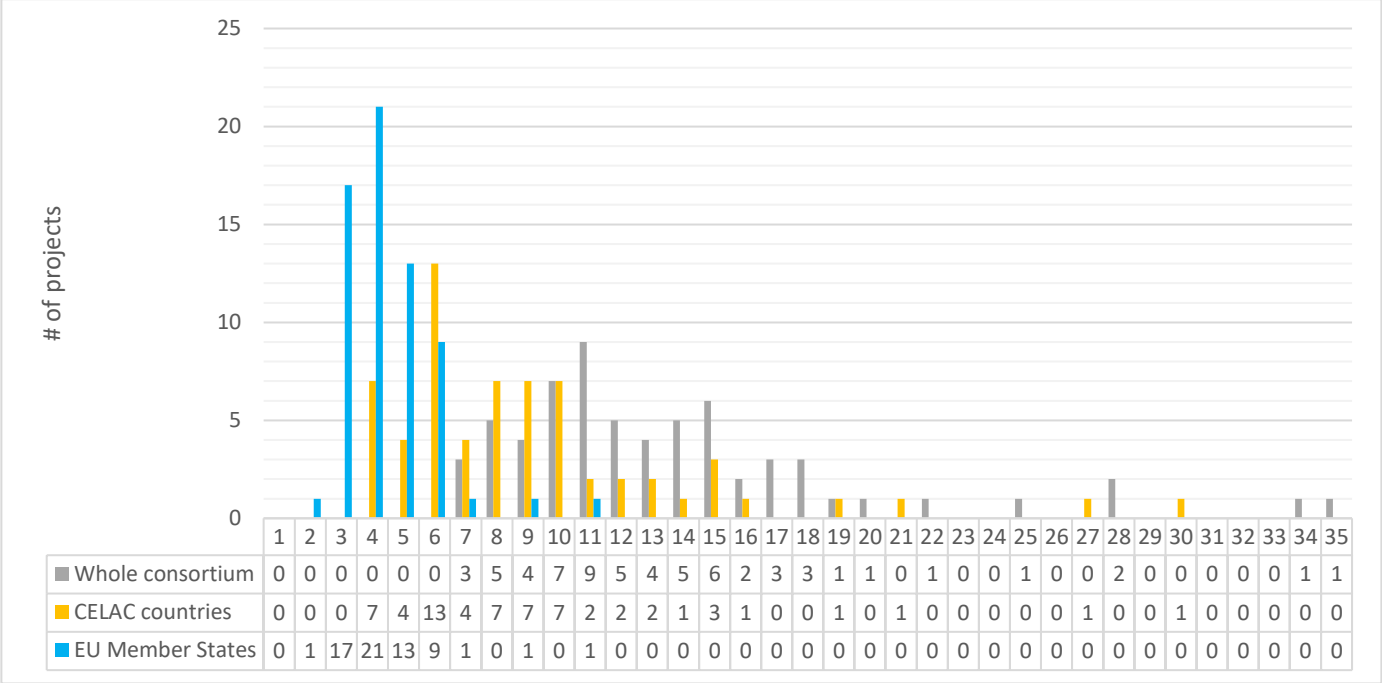
Table 31 shows the breakdown of collaboration between the selected CELAC countries and the EU Member States.

Table 31: Collaboration between selected CELAC countries in Erasmus+ capacity building in higher education with EU Member States

	Argentina (projects=28 participation=75)	Brazil (projects=25 participation=71)	Chile (projects=22 participation=52)	Colombia (projects=26 participation=70)	Costa Rica (projects=11 participation=29)	Ecuador (projects=9 participation=19)	Jamaica (projects=2 participation=3)
Austria	5	6	5	4	1	1	0
Belgium	3	5	1	5	2	2	2
Bulgaria	0	0	0	0	0	0	0
Croatia	0	0	0	0	0	0	0
Cyprus	1	0	0	0	0	0	0
Czech Republic	0	1	1	1	0	0	0
Denmark	1	2	1	2	1	1	1
Estonia	1	1	1	1	0	0	0
Finland	1	2	2	2	3	1	0
France	12	10	5	9	8	3	1
Germany	4	8	5	6	4	3	0
Greece	2	0	2	0	0	0	0
Hungary	0	0	0	0	0	0	0
Ireland	0	0	1	1	2	1	0
Italy	25	14	15	24	6	10	2
Latvia	1	0	0	0	0	0	0
Lithuania	0	0	0	0	0	0	0
Luxembourg	0	0	0	0	0	0	0
Malta	0	0	0	0	0	0	0
Netherlands	4	4	3	4	0	2	0
Poland	2	2	1	2	0	1	0
Portugal	13	17	15	15	5	4	0
Romania	1	1	1	1	0	0	0
Slovakia	0	0	0	0	0	0	0
Slovenia	1	0	1	1	0	0	0
Spain	40	34	31	37	16	12	1
Sweden	2	2	1	1	0	1	0
United Kingdom	6	6	6	7	2	3	0

Each of the 64 Erasmus+ capacity building in higher education projects with CELAC participation has an average of 14 project partners with a minimum of seven and a maximum of 35. Breaking down the project composition to the two regions, on average each project has a participation of nine partners from CELAC countries (min=4 and max=30) and four European Member States (min=2 and max=11). [37]

Figure 69:Erasmus+ projects on capacity building in higher education by number of project partners (total and proportion of CELAC and EU partners)



	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35
Whole consortium	0	0	0	0	0	0	3	5	4	7	9	5	4	5	6	2	3	3	1	1	0	1	0	0	1	0	0	2	0	0	0	0	0	1	1
CELAC countries	0	0	0	7	4	13	4	7	7	7	2	2	2	1	3	1	0	0	1	0	1	0	0	0	0	0	1	0	0	1	0	0	0	0	0
EU Member States	0	1	17	21	13	9	1	0	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

7.2.3.2 Thematic clustering

Thematically, projects in the Erasmus+ KA2 – capacity building in higher education action until 2018 were categorised into two[38]:

1. Joint projects, focussing on the following specific activities:
    a. Curriculum development
    b. Modernisation of governance, management and functioning of *HEIs*
    c. Strengthening of relations between *HEIs* and the wider economic and social environment

2. Structural projects, focussing on the following specific objectives:
    a. Modernisation of policies, governance and management of *higher education systems*

[37] Interpretation guideline for Figure 69: The horizontal axis on Figure 69 shows the number of partners while the vertical axis shows the number of projects. The grey bars represent the size of consortiums regardless of where the partners come from, while the orange and blue bars show the proportion of CELAC and EU countries respectively. As an example there were 11 partners altogether in nine projects; in 2 projects there were 11 partners from CELAC and in one project 11 of the project partners were from EU Member States.

[38] Source: Erasmus+ programme guide 2018: https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus2/files/erasmus-plus-programme-guide2_en.pdf [accessed August 2019]

b. Strengthening of relations between *higher education systems* and the wider economic and social environment

The eligibility to participate in this action or specific activities of this action depends on the countries and to which region they have been assigned. Until 2018, CELAC countries were assigned into two regions (region 8 – Latin America and region 11 – ACP). Worth noting is that from 2019, Chile and Uruguay were moved from region 8, Latin America, to region 13, other industrialised countries and are no longer eligible for the Erasmus + capacity building in higher education action[39]:

1. Region 8 (Latin America): Argentina, Bolivia, Brazil, Chile*, Colombia, Costa Rica, Cuba, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Paraguay, Peru, Uruguay*and Venezuela
2. Region 11 (ACP): Antigua and Barbuda, Bahamas, Barbados, Belize, Dominica, Dominican Republic, Grenada, Guyana, Haiti, Jamaica, Saint Kitts & Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname and Trinidad and Tobago

The table below shows the regional and cross-cutting priorities defined for region 8 and region 11[40].

Table 32:Region and cross-cutting priorities 2018 for Region 8 and Region 11 of Erasmus+

Region	Project category	Specific thematic areas
Region 8	1. Curriculum development	Education, arts, humanities (except languages), business and administration, law, information and communication technologies, manufacturing and processing, agriculture, forestry, fisheries and veterinary, health and environment
	2. Improving management and operation of higher education institutions	i. Quality assurance processes and mechanisms ii. Equity, access to and democratisation of higher education iii. Development of research and innovation capacities
	3. Developing the higher education sector within society at large	i. Development of school and vocational education at post-secondary non-tertiary education level.

[39] Source: Erasmus+ Programme Guide 2018: https://ec.europa.eu/programmes/erasmus-plus/sites/erasmusplus2/files/erasmus-plus-programme-guide2_en.pdf [accessed August 2019]
[40] Source: https://eacea.ec.europa.eu/sites/eacea-site/files/regional_and_cross-cutting_priorities_call_2018_0.xlsx [accessed August 2019]

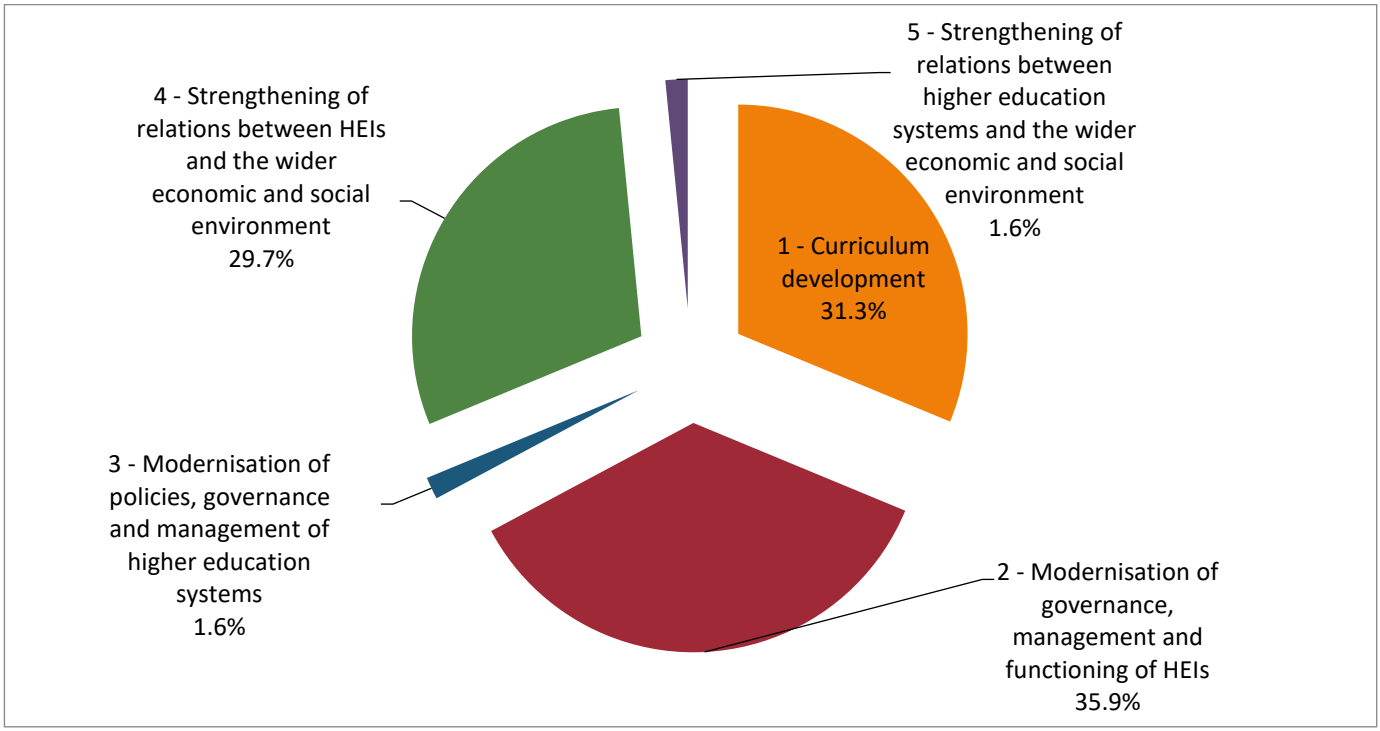
		ii. Recognising of qualifications and qualification frameworks iii. New technologies in higher education
Region 11	1. Curriculum development	Education, biological and related sciences, physical sciences, engineering and engineering trades, manufacturing and processing, agriculture, forestry, fisheries and veterinary, health, environment, arts and humanities (except languages
	2. Improving management and operation of higher education institutions	i. Governance, strategic planning and management of higher education institutions ii. University services iii. Internationalisation of higher education institutions iv. Quality assurance processes and mechanisms v. Development of research and innovation capacities
	3. Developing the higher education sector within society at large	i. Non-university at tertiary education level ii. Knowledge triangle, innovation

The dataset analysed for this section of the report provided only the "specific activities" of the projects but not the exact subject areas covered as presented in Table 32 above. As a result, the section below only presents how the 64 EU-CELAC projects in Erasmus+ CBHE action between 2015 and 2018 were divided according to the specific activities.

From the 64 projects with EU-CELAC involvement in Erasmus+ CBHE action between 2015 and 2018, the majority i.e. 23 projects or 35.9% covered the specific activity of "modernisation of governance and management *of HEIs*". This activity was followed closely by projects in curriculum development (n=20 or 31.3%) and projects in the specific activity of "strengthening of relations between *HEIs* and the wider economic and social environment" (n=19 or 29.7%). One project each, covered the specific activities: "Modernisation of policies, governance and management of *higher education systems*" and "strengthening of relations between *higher education systems* and the wider economic and social environment". Looking at the instances of participation of CELAC countries alone, this ranking is slightly different. Specific activity 2 still ranks first with 246 instances of participation, specific activity 4 is

second with 160 instances of participation, followed by specific activity 1 with 144 (in terms of projects, the ranking of specific activity 1 and 4 is reversed) then specific activity 5 with 27 instances of participation and finally specific activity 3 with 10 instances of participation. Taking into account the number of projects, the latter two activities 5 and 3 were tied in last place with one project each.

Figure 70: EU-CELAC projects in the Erasmus+ CBHE action (2015-2018) by specific activity



Region 11 countries (ACP) only took part in two of the specific activities: Curriculum development (68.8% of the total participations of the members of this region) and modernisation of governance, management and functioning of HEIs (31.3%). On the other hand, region 8 countries were involved in projects in all five specific activities: 42.2% of the total participations of the countries assigned to this region were involved in modernisation of governance, management and functioning of HEIs; 28% in strengthening of relations between HEIs and the wider economic and social environment; 23.3% in curriculum development, 4.7% in strengthening of relations between higher education systems and the wider economic and social environment and 1.8% in modernisation of policies, governance and management of higher education systems.

Figure 71: Participation of region 11 countries in the Erasmus+ CBHE action (2015-2018) by specific activity

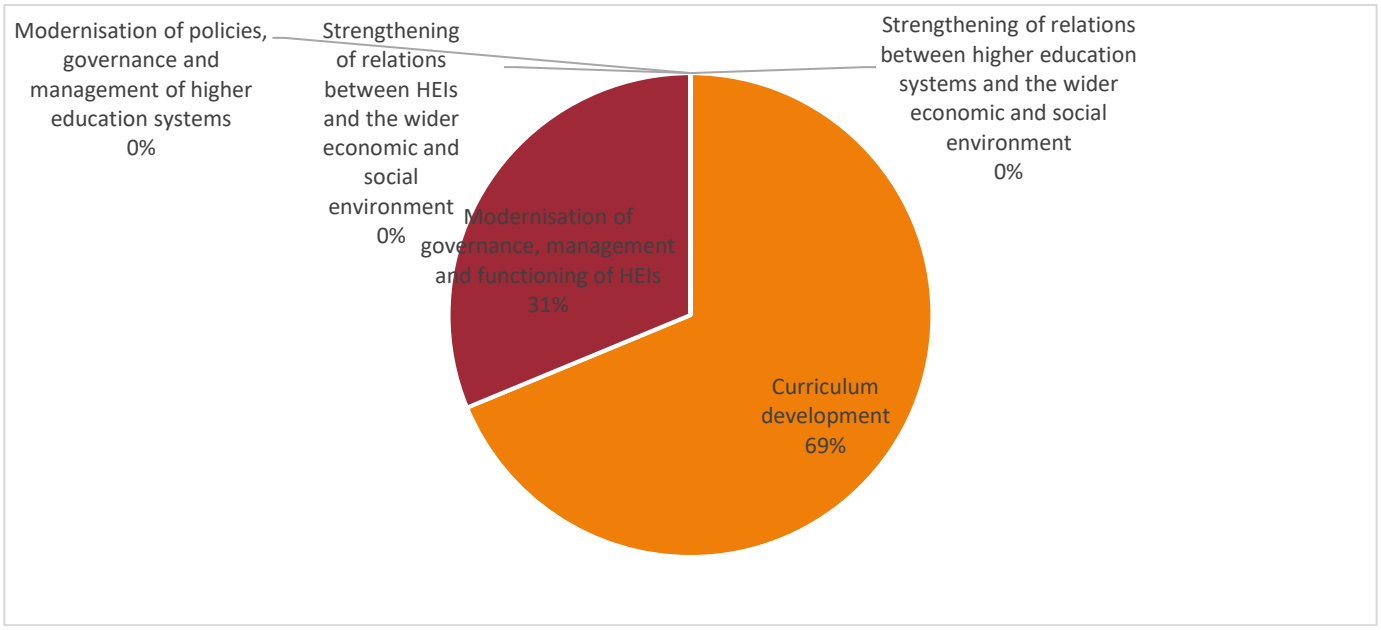
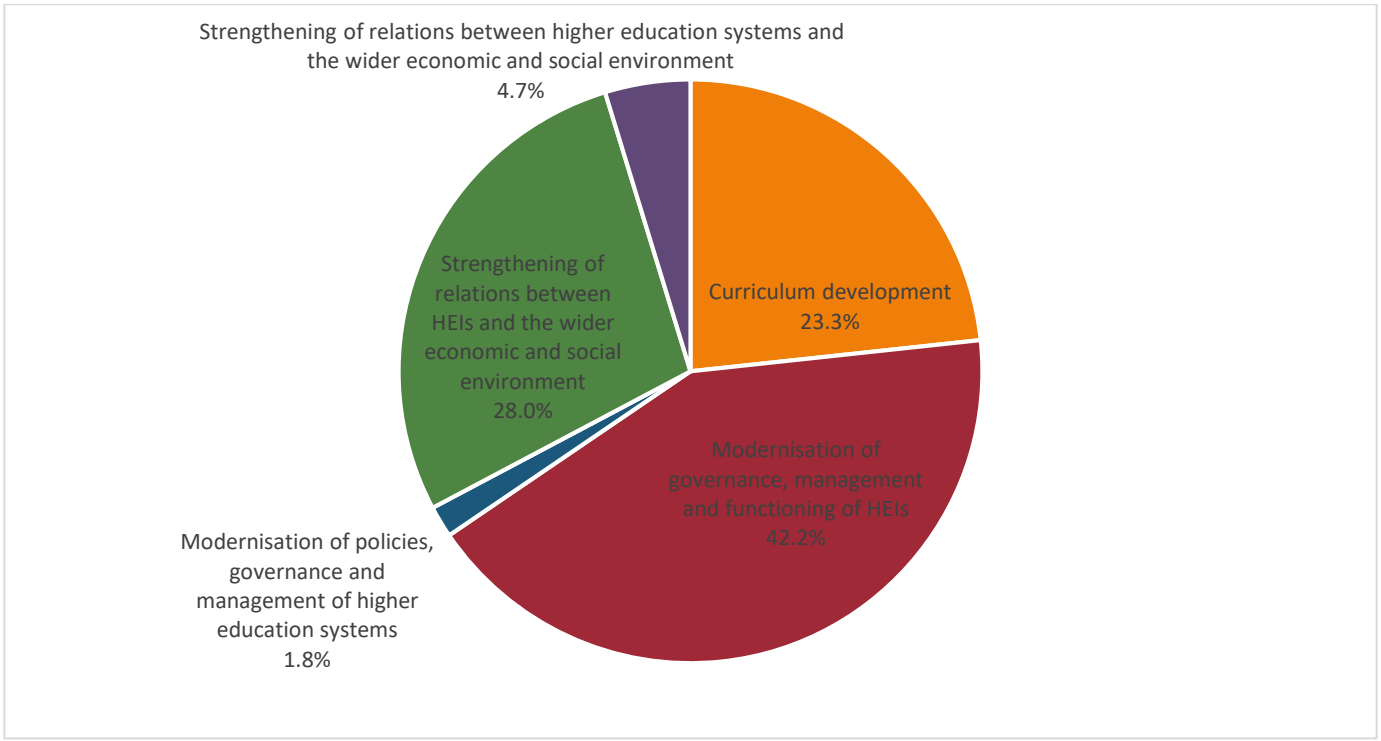


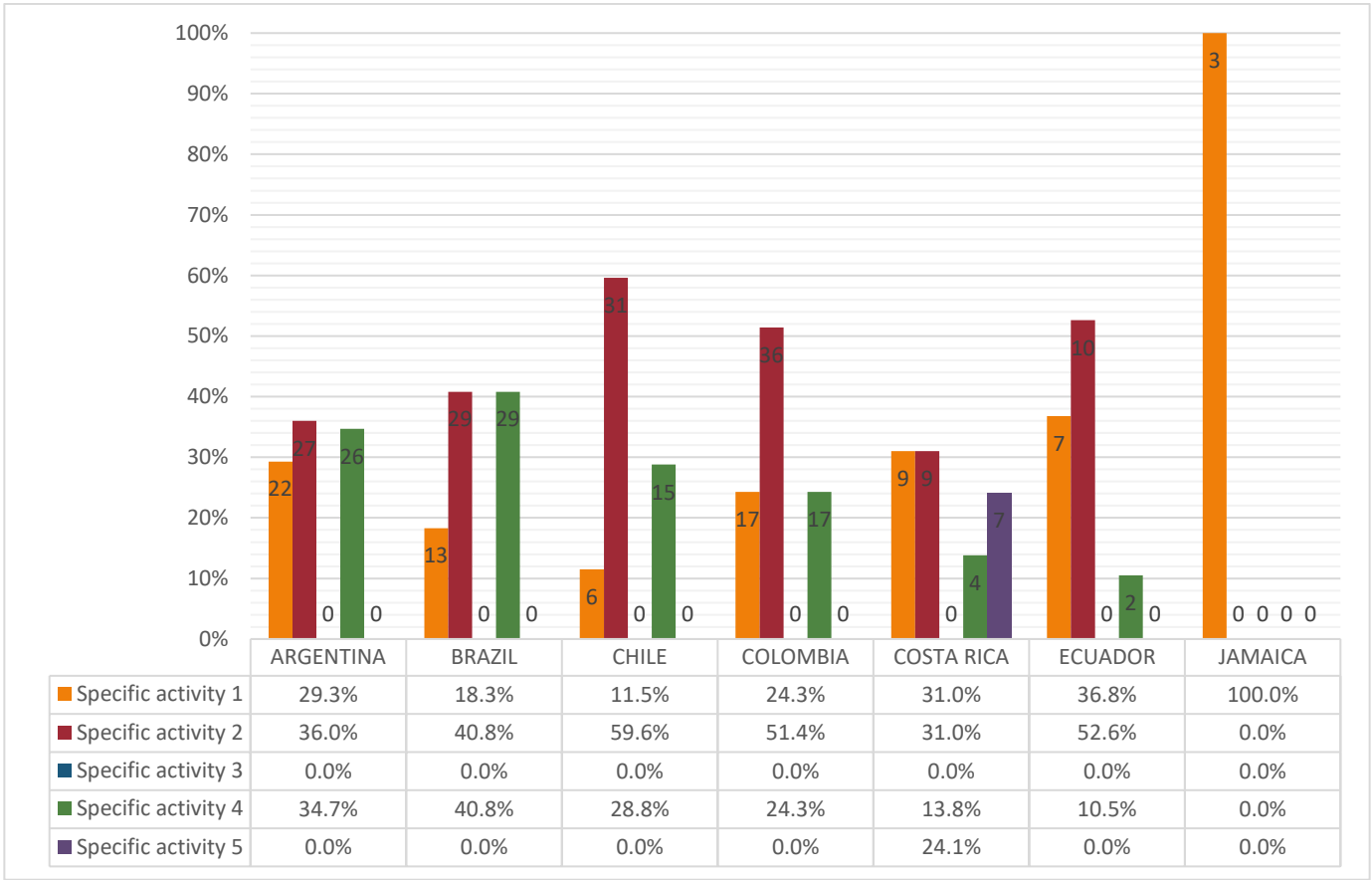
Figure 72: Participation of region 8 countries in the Erasmus+ CBHE action (2015-2018) by specific activity



Panama was the only CELAC country to participate in each of the five Erasmus+ CBHE specific activities. It was involved in 12 projects altogether with 28 instances of participation. Its highest participation was in specific activity 2: Modernisation of governance, management and functioning of HEIs with 10 instances of participation, followed by specific activity 4 with six instances of participation, specific activity 5 with five instances of participation, specific activity 1 with four and specific activity 3 with three instances of participation. The section below describes the participation of CELAC countries in the specific activities.

Looking at the participation of the selected CELAC countries, the involvement of Argentina, Brazil, Chile, Colombia and Ecuador in the specific activities of the Erasmus+ CBHE action presents a clear pattern. All five countries only participated in specific activities 1,2 and 4 and were most active in specific activity 2: Modernisation of governance, management and functioning of HEIs. The remaining two selected countries, Costa Rica and Jamaica show different patterns. Besides being involved in the three activities as the five countries mentioned previously, Costa Rica was also involved in specific activity 5. Jamaica on the other hand was only involved in two projects altogether in this action with three instances of participation all in the specific action 1: curriculum development.

Figure 73: Selected CELAC countries by participation in specific activities of Erasmus+ CBHE action [the data table below the graph and the height of the individual bars represent the share of the specific activity in the country's total participation; therefore for each country all bars sum to 100%. The values displayed within the bars represent the number of participations in each specific activity]



	ARGENTINA	BRAZIL	CHILE	COLOMBIA	COSTA RICA	ECUADOR	JAMAICA
Specific activity 1	29.3%	18.3%	11.5%	24.3%	31.0%	36.8%	100.0%
Specific activity 2	36.0%	40.8%	59.6%	51.4%	31.0%	52.6%	0.0%
Specific activity 3	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Specific activity 4	34.7%	40.8%	28.8%	24.3%	13.8%	10.5%	0.0%
Specific activity 5	0.0%	0.0%	0.0%	0.0%	24.1%	0.0%	0.0%

These selected countries are also dominant within each specific activity in the framework of all CELAC countries that participated in each action. Argentina's participation in specific activity 1 (n=22) make it the most active CELAC country in this activity with a share of 15.3% of the total participation in this activity. Colombia is second with 17 instances of participation taking a share of 11.8% of the total participations in this activity.

For specific activity 2, Colombia is the leading participant with 36 instances of participation amounting to 14.6% of the total share of participations in this activity. It is followed by Chile (n=31), Brazil (n=29) and Argentina (n=27) translating to 12.6%, 11.8% and 11% of the total share of participations in this activity respectively.

None of the selected countries participated in specific activity 3.

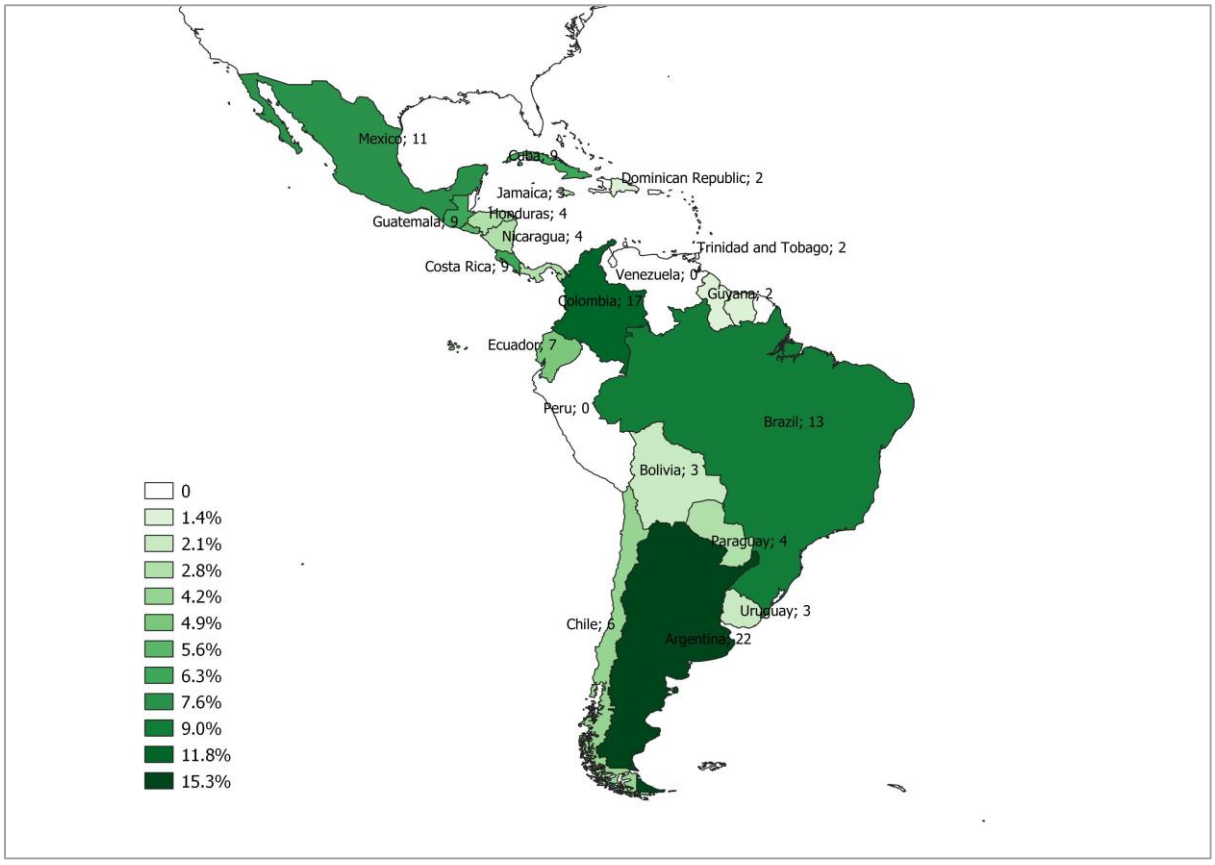
In specific activity 4, all the selected countries except for Jamaica were involved. Brazil was top performer in this activity with 29 instances of participation equivalent to 18.1% of the total share of participations in this activity. Brazil was second with 26 instances of participation translating to a share of 16.3%.

Of the selected countries, Costa Rica was the only country that participated in specific activity 5. With 7 instances of participation, it's involvement qualified it to be the leading CELAC country in this activity with a share of 25.9% of the total participations in this activity. Worth noting is that only one project was involved in this activity.

7.2.3.2.1 Specific activity 1: Curriculum development

All the 24 CELAC country that participated in Erasmus+ CBHE action with EU Member States except Haiti, Peru and Venezuela took part in projects relating to curriculum development. Argentina and Colombia were the most active in this field with 22 and 17 instances of participations translating to 15.3% and 11.8% of the share of topics in this activity respectively (see Figure 74).

Figure 74: Share of CELAC countries in projects under specific activity 1: Curriculum development [Name of country; instances of participation of country in specific activity; Legend: instances of participation of country in specific activity in %]

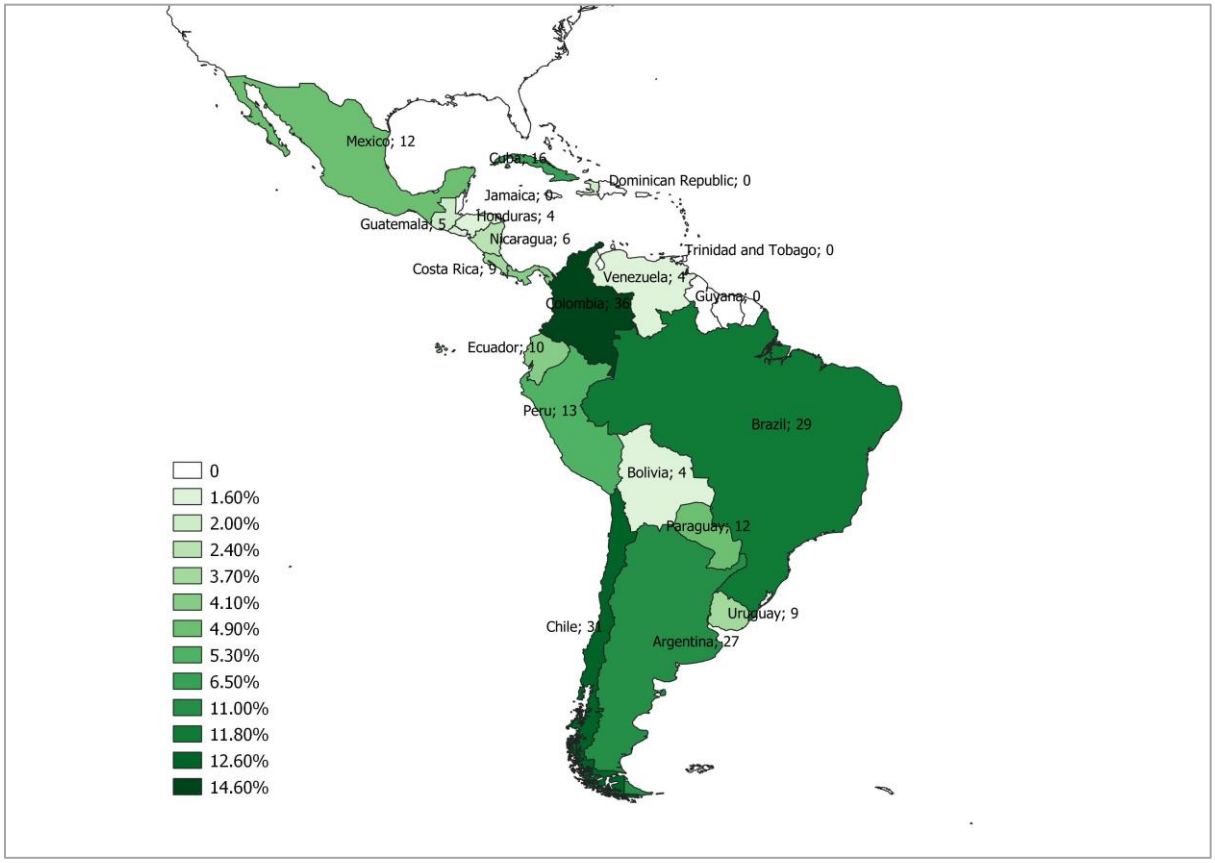


7.2.3.2.2 Specific activity 2: Modernisation of governance, management and functioning of HEIs

Together, Colombia, Chile, Brazil and Argentina took part in half the total participations in specific activity 2 of the Erasmus+ CBHE action (2015-2018). With 36 instances of participation, Colombia's

share in projects under this activity was 14.6%. Chile had 31 instances of participation translating to a share of 12.6% of the projects in this specific activity while Brazil and Argentina had 29 and 27 instances of participations in this specific activity comprising 11.8% and 11% of the total share of participations in this specific activity respectively. The 20 remaining CELAC countries that were involved in the Erasmus+ CBHE action (2015-2018) all had a participation rate in this topic of 6.5% or lower. The Dominican Republic, Guyana, Jamaica, Suriname and Trinidad and Tobago did not participate in projects under this activity (see Figure 75).

Figure 75: Share of CELAC countries in projects under specific activity 2: Modernisation of governance, management and functioning of HEIs [Name of country; instances of participation of country in specific activity; Legend: instances of participation of country in specific activity in %]



7.2.3.2.3 Specific activity 3: Modernisation of policies, governance and management of higher education systems

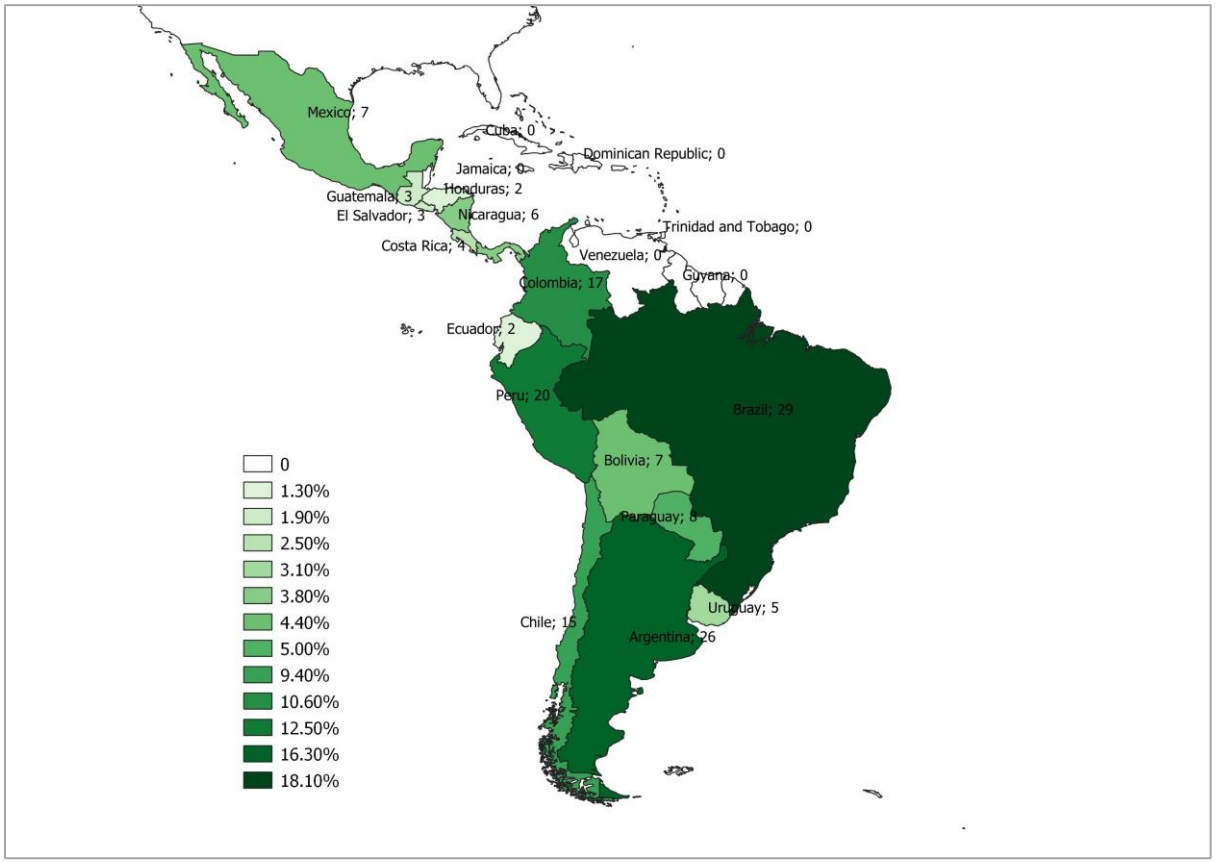
Only one of the 64 projects was classified under specific activity 3: RecoLATIN – Credential evaluation centres and recognition procedures in Latin American countries. This project was headed by an Italian institution and other the applicant, two other Italian organisations were additionally involved, two from France, two from Norway, four from Mexico and three each from Panama and Uruguay. As a result, with four instances of participation, Mexico was the biggest CELAC player in this specific activity.

Figure 76: Share of CELAC countries in projects under specific activity 3: Modernisation of policies, governance and management of higher education systems [Name of country; instances of participation of country in specific activity; Legend: instances of participation of country in specific activity in %]

7.2.3.2.4 Specific activity 4: Strengthening of relations between HEIs and the wider economic and social environment

19 Erasmus+ CBHE action projects carried out specific activity 3. This involved 160 instances of participations in total 16 of the 24 CELAC countries that took part in the Erasmus+ CBHE action between 2015 and 2018. The countries that did not take part were: Cuba, Dominican Republic, Guyana, Haiti, Jamaica, Suriname, Trinidad and Tobago and Venezuela. Almost 70% of the share of projects within this activity were dominated by: Brazil (18.1%), Argentina (16.3%), Peru (12.5%), Colombia (10.6%) and Chile (9.4%) (see Figure 77). The rest of the countries involved had a share of participation in this topic of between 1.3% and 5%.

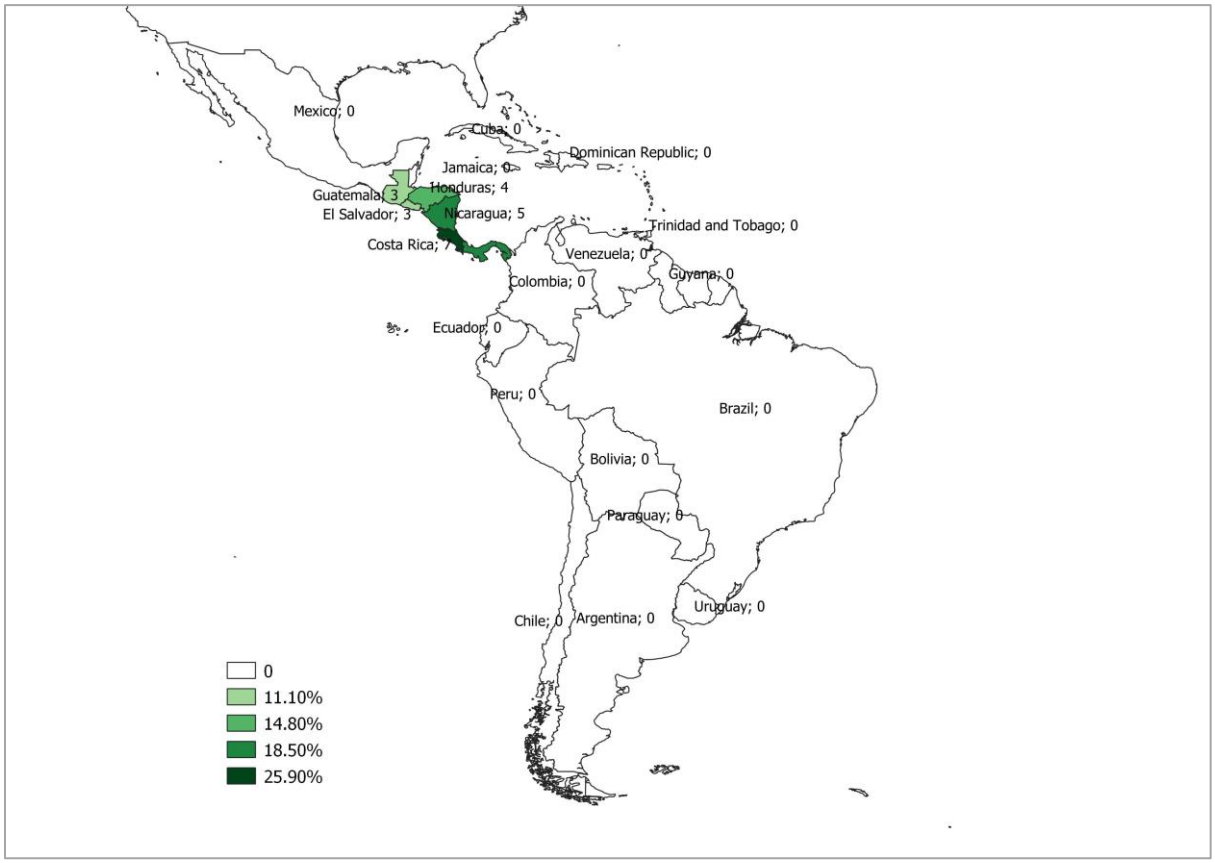
Figure 77: Share of CELAC countries in projects under specific activity 4: Strengthening of relations between HEIs and the wider economic and social environment [Name of country; instances of participation of country in specific activity; Legend: instances of participation of country in specific activity in %]



7.2.3.2.5 Specific activity 5: Strengthening of relations between higher education systems and the wider economic and social environment

Like specific activity 3, only one of the 64 EU-CELAC projects in Erasmus+ CBHE (2015-2018) covered this specific activity: HICA – Harmonization and innovation in Central America Higher Education Curricula: Enhancing and Implementing the Regional Quality Framework. Besides the EU project partners (Spain – applicant, Belgium n=1, Germany n=2, Ireland n=1 and Italy n=1), six CELAC countries were also involved with a total of 27 institutions: Costa Rica (n=7 or 25.9%), Nicaragua and Panama (each with n=5 or 18.5%), Honduras (n=4 or 14.8%) and El Salvador and Guatemala (each with n=3 or 11.1%).

Figure 78: Share of CELAC countries in projects under specific activity 5: Strengthening of relations between higher education systems and the wider economic and social environment [Name of country; instances of participation of country in specific activity; Legend: instances of participation of country in specific activity in %]



Annex III contains all data relating to this section of the report.

7.3 EUROPEAN RESEARCH COUNCIL – ERC

Besides the already mentioned mobility actions implemented in the Framework Programmes, the European Research Council is a key instrument in attracting top-researchers from all over the world to the EU research area. Until December 2017, the ERC has funded more than 7000 researchers at different stages of their career. Of these, 624 researchers were from a non-ERA country, but only 38 nationals from CELAC countries have received a grant from the ERC so far. Table 33 shows the nationalities of the researchers participating in ERC grants.

The picture is quite similar to the trends in the Framework programmes, as Argentina and Brazil are by far the most active countries with Chile, Mexico and Colombia trailing behind. This tendency is reinforced through the implementing agreements signed with Argentina, Mexico and Brazil, providing additional career opportunities for researchers from this countries and encouraging funding agencies from these countries to enable participation of their scientific communities in research teams run by an ERC grantee (European Commission 2017). However, there is still no consistent basis of LAC researchers applying and/or participating in ERC grants, be it due to little knowledge of this possibility in the LAC region or the Excellency approach of the funding scheme. To cover the first issue, the EU already reacted by expanding the access to the Euraxess-Brazil portal to all LAC countries. This portal

links researchers in LAC with Europe and provides free information and events on research funding, research careers and collaboration opportunities (see also chapter 4).

Table 33: LAC participation in ERC grants (2007-2017)

Country	# of participations
Argentina	13
Brazil	7
Chile	3
Mexico	3
Colombia	2
Costa Rica	2
Bolivia, Ecuador, Jamaica, Panama, Peru and Venezuela	1

Source: Euraxess 2018[41], own elaboration.

7.4 INTERIM CONCLUSIONS – CLUSTERING AS RESEARCH APPROACH AND STRATEGIC TOOL

Detected patterns between the EU and LAC countries as regards **geographic cooperation** draw a clear picture. The EU has well-established ties with some LAC countries especially the ones that have been active in cooperation for a longer time and have access to domestic resources and research and innovation systems in place (Argentina, Brazil, Mexico, Chile, Colombia). While these countries generally belong to the bigger LAC nations with more resources available, there are also other examples that show that targeted efforts towards increasing cooperation can be of significant impact in terms of bi-regional cooperation. For example, Uruguay and Ecuador can be counted as two of the most active countries in the framework of H2020 as well as in Erasmus+.

These examples – which could also include other countries such as Costa Rica – show that participation of LAC countries in EU research and higher education programmes is not only a matter of traditional cooperation channels and path-dependency, but that targeted efforts and dedication of resources (e.g. through well informed NCP networks) is a factor in determining the success of cooperation efforts. Additionally, an important factor in creating new geographic links is to have a clear understanding of regional, respectively national or local strengths and weaknesses in terms of thematic orientation as well as research and innovation needs and drivers. Building up cooperation priorities with EU countries from a LAC perspective requires a contextualisation of the bi-regionally set priority areas (Bio-economy, Biodiversity, Climate Change, ICT, Energy and Health) as regards the specific situation and needs of

[41] See: https://cdn4.euraxess.org/sites/default/files/focuserc_celac.pdf.

national research and innovation systems. Only by doing so, the geographic ties can be built up according to the thematic landscape present in the region.

As regards this **thematic landscape**, the empirical analysis of cooperation between the EU and CELAC has delivered evidence that the relations are characterised by a diversity that illustrated through the presence of LAC partner institutions across (almost) all pillars of H2020 as well as Erasmus+ under the precondition that these are open for their participation. Participation regarding thematic focus areas follow a more or less balanced pattern, without significant outliners visible. The only visible deviation is the concentration in MSC-Actions, which is partly explainable through the different level of grant takers (individuals vs. organisations), but also shows that the researcher mobility priority established as one of the pillars of the CRA is already operating on a comparatively well-developed foundation. However, even though this pillar is already in practice, a more targeted approach, e.g. through strengthening the participation of female researchers or the appeal of CELAC for PhD students would enhance the mutual benefit for both regions.

Furthermore, cross-referencing the empirical data with the bi-regional framework which is set out by the CRA; the JIRI and the SOM meeting, facilitates the generation of a new empirical knowledge base for the enhancement of impact and sustainability of EU-LAC cooperation. As introduced above, the bi-regional working groups on thematic priorities implemented as support for the SOM meetings defined a set of key researcher areas for intensified EU-CELAC cooperation: Bio economy, Biodiversity, Climate Change, ICT, Energy and Health. These topics were chosen to be areas where both regions identified the most potentials for cooperation and where LAC participation would be especially beneficial. Looking at the empirical data leads to a patchy assessment.

On the one hand, there are some cooperation areas where LAC participation clearly lives up to the jointly developed priority areas. For example, looking at the H2020 pillar “Societal Challenges” the topic of “food” (n=22), (which includes the priority area Bio-economy) had the highest number of LAC participation with only the fourth highest number in terms of budget compared to the other societal challenge focus areas. This indicates that LAC participation in this field brings significant added value to the EU research area and that the bi-regional priority areas were targeted towards a direction were mutually beneficial knowledge transfer is possible. Additionally, the topic of “environment” shows a similar cooperation pattern like “food”, gathering 22 projects under this priority area. On the other hand, there is also a notable lack in certain areas of cooperation, where, according to the bi-regional joint agenda setting, the participation should be precedence. For instance, the topic of “transport”, an issue extremely relevant to multiple dimensions such as climate change, energy and ICT, and more specifically to the issue of sustainable urbanisation, so far has not attracted relevant participation by LAC organisations, with only one project funded that include partners from LAC. Likewise, in the topic of “energy”, explicitly identified as a bi-regional priority area, so far only very little involvement of LAC institutions has been funded and implemented.

Obviously, the process of identifying these priority areas was done in parallel with the publication of different calls for the research framework programmes and therefore a stronger effect might show in the last rounds of H2020 implementation. Nonetheless, the analysis conducted already allows a first résumé of the cooperation efforts. The data to do this is readily available and has been presented and summarized above. In addition to the already described topic variations, the data also shows a lack of LAC participation in different research fields such as the pillar of “leadership in enabling & industrial

technologies", that also includes bi-regionally defined priority areas such as ICT, where only marginal LAC participation was determined.

Another issue to take into account is the participation of LAC countries in Erasmus+ projects. In this funding scheme, the thematic priorities are even less visible, which is partly due to structural differences in the programme design, but partly also due to lack of alignment of policy areas between the programming institutions, in particular the responsible DGs Research and Education and Culture. In Erasmus+, LAC countries are especially prominently represented in actions dealing with building up competences regarding internationalisation and capacity building for higher education. There is still a lot of untapped potential in EU-LAC relation in fields such as curriculum development, knowledge alliances and sectorial skill alliances. So far, it seems that these instances of cooperation in Erasmus+ have not strategically been connected to the priority areas identified in the bi-regional policy dialogue. Doing so would considerably strengthen the relations between the two regions and open up new spaces of cooperation connecting actors from both regions in a sustainable and long-lasting manner. Interconnecting the different existing programmes creates synergies that are necessary to increase the impact of scientific cooperation in both regions. While the two programmes certainly have different angles and cover different aspects of scientific cooperation, the alignment of their strategic priorities, at least in part, makes it possible to avoid duplications and to design the relations according to the principles of highest possible added value for both regions.

Creating and using synergies hereby goes beyond the programme level and is also a conclusion when looking at the project level. Taking the empirical data into account that show that there is a lot of cooperation going on, the necessity for connecting the projects which work in similar fields becomes evident. The empirical approach of clustering, deployed in this report, can serve as a suitable approach to identify the different geographic and thematic patterns that are visible in bi-regional cooperation. However, in order to enhance the impact of the bi-regional cooperation projects it is also necessary to follow up on this activity with a strategic clustering approach as well as a practical instrument that allows the active actors in this field to get engaged and actually create the added value derived from creating synergies. The strategic angle secures sustainability for the different projects as it enables that the outputs and outcomes of each project are shared, disseminated and exploited on a broader basis both in terms of target groups and beneficiaries as well as policy implications and research and innovation system implications. The empirical data provided through the EU-LAC focus project can hereby serve as a tool for the EU, national governments in LAC (and the EU) and other actors to articulate projects and initiatives to leverage their structural, institutional and societal impact on research and innovation and higher education systems.

Although this analysis gives a good insight into the actual state of the art of cooperation and the alignment of cooperation patterns with bi-regionally set priority areas, to identify possible pathways on the way to an even more efficient and impactful relation it is necessary to look at the specific experiences of actors involved in these projects. Therefore, the chapter 8 will present the results of expert consultations with academic networks and mobility schemes, which aim at the identification of these pathways.

FOCUS AREA III - BEST PRACTICES AND UPSCALING POTENTIALS

8 UPSCALING OF BI-REGIONAL COOPERATION – GOOD PRACTICES, CHALLENGES AND POTENTIALS

After getting an overview on the EU-LAC cooperation patterns on multiple levels, the next step was to select interesting cases for further examination in order to identify main challenges, support needs and best practices of cooperation. These cases were selected following three criteria: 1) representativeness, 2) indication of good practice and 3) potential for further cooperation. While the first criterion was assessed by the general classification in the mapping and included geographic diversity, criteria 2) and 3) were assessed by the researcher team through the responses received in an exploratory survey. Table 34 lists the participating organisations. In addition to these seven networks that were interviewed more in-depth, the responses to open questions in the survey also contributed to this analysis to get an even more diverse outlook on the topics in focus.

Table 34: Interviewed networks and schemes.

Name of the network/scheme	Classification	Programme
CLACSO	LAC Academic Network	/
Fundación Carolina	Mobility scheme	/
UDUAL – Union de Universidades de América Latina	LAC Academic Network	/
KITE – Knowledge Integration and Transparency in Education	EU-funded mobility scheme	Erasmus Mundus
FORINT - Fortalecimiento de la Internacionalizacion entre las Universidades Europeas y Latinoamericanas	EU-funded academic network	Erasmus+
VISIR - Educational Modules for Electric and Electronic Circuits Theory and Practice following an Enquiry-based Teaching and Learning Methodology supported	EU-funded academic network	Erasmus+
IBRASIL	EU-funded mobility scheme	Erasmus Mundus
ALCUE NET	EU-funded academic network	FP7 – International Cooperation

OBREAL	EU-LAC academic network	/
EURAXESS Latin America	EU mobility scheme	/
EULARINET - European Union-Latin American Research and Innovation NETworks	EU-funded academic network	FP7 - Capacities (International Co-operation)

The interview approach included questions on good practices, challenges and barriers and required support measures to strengthening bi-regional collaboration and mobility efforts. In the following, a synthesis of the feedback of the participating networks is presented. While these networks are quite different in their structures, purpose and scope, they still share a common experience of working towards fostering mutual exchange in an international environment. Therefore, they share a similar set of knowledge created at the intersection of intercultural interaction, institutional support measures and general framework conditions.

The interviews were conducted using a semi-structured approach, allowing for enough flexibility to capture the different frameworks the projects/networks are working in. However, to ensure a coherent analysis of the interviews, the following basic structure of the guidelines was used in all interviews conducted:

- **Joint actions**
  - How does cooperation in your network/project work?
  - How are joint actions implemented?
  - What measure do you take to ensure equal participation of EU and LAC members?
- **Common working approaches**
  - How is the network/mobility scheme organized (participants, hierarchies, target groups etc.)?
  - How does/did your project contribute to diversifying scientific research?
  - Could you identify imbalances or asymmetries in how people, knowledge and other resources circulate or are/were made available to researchers in your network?
- **Challenges and barriers of cooperation**
  - What are/were the main challenges regarding the daily cooperation with LAC/EU institutions?
  - Did you have a monitoring approach to assess bi-regional cooperation in your project/network?
- **Needs for further cooperation**
  - How could cooperation between EU-LAC institutions be supported more efficiently?
  - Imagining an ideal world of academic cooperation between EU-LAC: How would it look like and which measures/instruments are needed to achieve it?

While these questions were used as guidelines in the interview, there was always some room to maneuver in order to guarantee to capture the peculiarities of the different forms of cooperation networks. Subsequently the main synthesis stemming from the insights provided by the different networks are presented, following the main thematic blocs of the interview.

8.1 DEVELOPMENT OF JOINT ACTIONS AND COMMON APPROACHES

Naturally, due to the different kinds of networks that were interviewed, the approaches to cooperation were highly diverse. Academic networks seem to be organized very heterogeneously, connecting a vast number of higher academic institutions. In the case of academic networks, the structure can be one of a national NGO, an international organisation or even a foundation. The organizational structure has implications for the concrete operational work of the networks, as it determines decision-making processes and can contribute to reducing asymmetries in terms of power relations.

Different organizational structures also mean different ways in how to set agendas and priorities. For example, in the case of the mobility scheme Fundación Carolina the interaction between private and public actors is quite close, as representative from Spanish ministries and private companies are, under consultation of academic experts, setting the priority areas for the mobility programme. The objective of the Fundación Carolina is to foster scientific cooperation between Iberoamerican countries and to involve the private sector in academic cooperation to create synergies for economic growth. This means there is a close interaction between industry needs and governmental priorities, whereby these priorities are clearly Spanish ones and not specifically aligned with EU-CELAC priority areas. European funded projects on the other hand are obviously developed in the framework of EU priorities, with the specific consortiums forming around specific topics of interest. However, in this context, the claims of a Common Research Area seem to be difficult to implement in practice, as the kind of research that was to be conducted "*was very much up to the European partners to decide*". Nonetheless, the EU programmes present the chance to form a consortium that is adapted to the needs and requirements of the participating institutions. Due to the usually smaller size of these consortiums, an Erasmus+ project may include only around ten universities, while a big (bi-)regional academic network can encompass several hundred higher education institutions, it is possible to take a more direct approach between the different participating institutions. This can help to mitigate fears of administrative barriers and can contribute to a more efficient exchange both in scientific, as in institutional and administrative matters.

In terms of academic networks, various approaches to develop common actions were mentioned in the survey and the interviews, often even inside the same network. Roughly, a differentiation can be made through discerning thematic, strategic and administrative approaches. Mobility often serves as a cross-cutting action present in all of these approaches in networks. For example, the CLACSO network is mainly organised along thematic working groups which are formed by the participating universities every three years. European universities are only associated members in this network, but they are allowed and encouraged to participate in those working groups. Further, there are post-graduate networks and a certain stock of mobility scholarships, but in this case only between LAC institutions. The working groups are created mostly in a bottom-up initiative according to the interest of universities. This gives a good example of how formation of thematic working groups could take place in a non-hierarchic way, taking into account both interests from the EU and LAC. Although CLACSO does not provide general funding for these working groups, it works as an important rooftop-organisation.

However, the interest of LAC universities to cooperate with other world regions like China or Africa has increased notably according to the experiences shared by representatives of CLACSO and UDUAL.

Nevertheless, UDUAL is undertaking new approaches to start intensified cooperation with the European Coimbra network to "*cooperate in a more coherent and specific manner*", especially in terms of mobility. Hereby, the focus shall be put not only on mobility cooperation, but rather on more institutionalised ways of securing inter-continental pathways of exchange that transcended individual mobility. OBREAL presents an example of such an inter-continental pathway, as it is a bi-regional observatory of EU-LAC relations, focusing on the promotion of dialogue between academic institutions from the two regions to get to a better understanding of the policy challenges in each region. Gathering 26 academic institutions from both regions the organisation is focusing on specific topics of bi-regional cooperation and on how to promote them on the regional policy agendas. In this form, the organisation has an important role in offering an institutional framework for cooperation that, although established as an organisation according to Spanish law, is inclusive in the sense of integrating Latin American and European partners to an equal level.

Offering institutionalised pathways of cooperation is also one of the main goals of the Euraxcess Latin America & Caribbean network. By providing free information and organizing events on research funding, research careers and collaboration opportunities the EU established Euraxcess network tries to promote opportunities for LAC researcher in the EU and vice versa since 2018. Although established according to EU law and with its basis in the promotion of career development and mobility of European researchers, the Euraxcess network has developed into a crucial link in the framework of academic EU-LAC relations. The peculiarity in its organizational form is that while LAC institutions are not structurally involved in its administrative arrangement, they can easily request services, such as information events, from the Euraxcess personnel. To reach out to LAC stakeholders such as Universities, public institutions or research centres, Euraxcess uses different channels such as the EU delegations to LAC countries or the LAC NCP network established in the framework of the ALCUE Net project, coordinated by the Secretariat of Science, Technology and Innovation from Argentina. Through these actions Euraxcess contributes to building up a knowledge base in LAC countries about the possibilities that the EU research framework programmes offer not only in terms of mobility but also in terms of academic cooperation more in general.

8.2 MAIN CHALLENGES OF BI-REGIONAL COOPERATION

A lack of financial resources is identified as a main problem regarding mobility, as for example daily rates for students or researchers on abroad trips are sometimes regarded as calculated too low in case of EU funded projects; or universities themselves are not dedicating enough money in case of academic networks. On a more basic notion, the interviews showed that often, especially when working with smaller LAC countries, the knowledge needed to jointly work in international projects is very limited. This highlights that administrative capacities are not well developed, meaning, for example that researcher groups don´t know how to organise research in an international context.

An observed challenging issue is the inclusion of Caribbean partners. Inside LAC networks this might be related to language issues, but often it is also a problem of lack of administrative capacities available in smaller Caribbean universities. Therefore, the case of the University of West Indies seems to be a good practice example as this university consortium manages to support its different branches all over the Caribbean with support measures regarding internationalisation and administration of bi-regional cooperation and mobility. Another, very practical issue, is the one of different time zones. Operating

in different time zones often makes meeting more difficult, as working hours are limited each day and in case of universities other obligations like giving classes often have priority compared to online meetings with partners from the EU or LAC. In this specific regard, university administrations are called upon to provide the necessary support measures to researchers to be able to comply with their duties deriving from international cooperation projects.

Another main challenge which becomes manifest especially in EU funded projects, but also in academic networks, is the bureaucratic work load that comes along with getting involved in international cooperation and mobility. This issue stretches from the level of individual researchers being overwhelmed with bureaucratic demands e.g. in their host institution of an abroad stay to the requirements set out for participating in e.g. EU funded projects. While a certain amount of bureaucracy is certainly necessary, more easily accessible assistance measures could help mitigating this problem. For example, on an institutional level a network solved this problem by pairing more experienced “mentoring institutions” with newcomer institutions. This pairing ensured direct support channels between the partners and making cooperation more efficient by establishing a personal link. Another facet of this is complying with eligibility criteria for funding, which is not always easy, especially in case of international organisations like e.g. CLACSO. On an individual level this translates to better on-site support measures for researchers working in a foreign environment.

Moreover, the issue of competing funding sources has to be taken into consideration. Arguably, regional or bi-regional funding sources can exert pressure on national funding opportunities and lead to duplication of efforts. An interview partner from an EU mobility project described a situation in which the project offered scholarships in the exact field were a big national scholarship programme was recruiting students. This led to a situation of competition in which the full potential of both scholarship programmes could not be exploited. Therefore, it is important to have aligned priorities for mobility on national, regional and bi-regional level. To avoid a situation where e.g. the EU is offering scholarships in fields that are already sufficiently covered by regional or national funding programmes, the continuous bi-regional exchange on priority areas for different zones and thematic needs has to be strengthened. An example for this is currently being set by the UDUAL-Coimbra cooperation, where national research and funding programmes are mapped as to get an overview on what should be the key areas for further cooperation.

Furthermore, cooperation and organisation between actors active in EU-LAC relations only works in a very limited manner. Although there are different initiatives that claim regional or even bi-regional scope, the participation and enthusiasm for these initiatives often fades after a quite limited time-span and leaves the core work of keeping up the relations with only a few institutions active in these networks. This also weakens the organisational capacities of networks and organisations to maintain contact and exchange with other initiatives active in the bi-regional cooperation framework. The lack of institutional docking points for cooperation initiatives – e.g. dedicated service points integrated in ministries as it is the case for example in Argentina or Mexico – makes it harder to disseminate information on existing cooperation and mobility possibilities and therefore also weakens the efficiency of EU-LAC relations. Tackling these challenges needs specific measures that support the already active actors in an institutionalised way and that provide a framework accepted and acknowledged in both regions.

8.3 NEEDS FOR SUPPORT AND WAYS TO STRENGTHEN COOPERATION

A general issue that arose particularly with the EU funded projects is the one of information on funding possibilities. Apparently, these are often still not well known by LAC researchers or institutions and therefore the participation is still not where it could be. In the last decade, the EU has been dedicating significant resources towards communication and dissemination efforts in LAC and other world regions, for example through the Euraxcess network, but there is still untapped potential in this area. With the implementation of the Service Facility[42] in support of the strategic development of international cooperation in Research and Innovation, the European Commission has taken another step to push communication efforts in different world regions forward. Making use of the ties already established in previous Framework Programmes will be crucial to ensure the success of this institution. The cooperation with LAC universities needs to be very intense on this issue. Regional academic networks like UDUAL, CLACSO, or AUALCPI can be very valuable in this regard, as they have stable connection to a high number of LAC universities. Working together more closely with LAC regional university associations, may also enable their participation in funding programmes, could contribute to higher visibility on the continent as well as to increased involvement in the bi-regional scientific discourse. This could also be achieved by establishing a bi-regional platform for University Associations from both regions to discuss common approaches to cooperation. While the EU-CELAC Academic Summit already serves as a framework for bringing multiple actors together, a more stable and continuous platform or network would facilitate interexchange.

Furthermore, the issue of funding sources remains relevant. Notwithstanding the traditional demands for more funding sources raised in both regions there are other matters connected to this topic. For one, mobility funding should be linked to a better access to research infrastructures and knowledge systems. In case of peripheral universities from both regions, the access to basic resources that are necessary for conducting high quality research is not easy. The experience of sharing scientific results on an international level can be as rewarding as the access to research equipment not accessible in the home country of a researcher.

Moreover, funding can become a measure of supporting cooperation on an equal footing and with lesser asymmetries in terms of decision-making power and agenda setting. If bi—regional cooperation takes the proclamations of the Common Research Area seriously and strives for mutually beneficial scientific exchange, a way to do so would be to work more towards co-funded or (CE)LAC funded networks and projects. This would strengthen the cooperation on multiple levels: First, it would reverse traditional cooperation patterns and their sometimes path-dependent routines and hereby facilitate innovativeness in and through cooperation. Second, it would shift the perspective of EU institutions and force them to adapt a bit more to the reality of LAC universities. By doing so, mutual understanding would be fostered, and up-scaling of cooperation and mobility would show more efficiency. Third, LAC countries could push their own research agendas and, at the same time, share more confident scientific knowledge on issues where LAC researchers are more proficient than their

[42] The Service Facility in Support of the Strategic Development of International Cooperation in Research and Innovation set up under the provisions of the Horizon 2020 Work Programme 2016-2017. The service facility in support of research and innovation cooperation aims to support the European Commission in reinforcing bilateral, multilateral and bi-regional policy dialogues with Third Countries and regions as well as identifying and addressing barriers to and opportunities for increased cooperation.

European counterparts. Obviously, the precondition for this is that regional organisations like CELAC or other regional bodies commit funds to bi-regional cooperation and get active in the field not only in the framework of political dialogue, but also in terms of bundling resources from its member countries.

Mutual understanding of structures, systems and procedures in the higher education sector in both regions is crucial for strengthening cooperation and mobility. It is a precondition to work towards an environment more fit for international cooperation, especially on the LAC side. The EU has been serving as a role model in terms of regional integration of university systems, including diploma recognition and credit transfer, in the last decades. However, the interview partners from LAC highlighted the fact, that EU experiences are not easily transferable to LAC due to national and regional peculiarities. If the EU wants to contribute to the development of an integrated university system it needs to "*share its experiences with all its flaws (…) without imposing anything*", according to an interviewee. The cooperation of regional LAC networks has shown, that there is a diverse set of actors that needs to be taken on board when talking about internationalisation and integration in LAC. For example, it was mentioned multiple times in the interviews that students or teacher unions have a bigger role in several LAC universities, which generally have a high degree of autonomy. A better understanding of this circumstance and offering assistance in an appropriate way can, in the long-term, contribute significantly to strengthening bi-regional cooperation. A key role in this matter could be a stronger focus on administrative interchange between the regions fostering the foundation for EU-LAC cooperation.

Diversification of involved institutions is another way how cooperation could be strengthened. This means on the one hand, better inclusion of the private sector in bi-regional cooperation. An example for this is the Spanish Fundación Carolina and Campus Iberoamérica, where private companies are contributing to scholarships available for LAC researchers and therefore have better access to research results. Although agenda setting should clearly remain with public institutions, match-making with the interests of private companies could be a very efficacious way to up-scale bi-regional mobility efforts and make more funding available. Thinking of the examples just mentioned, a similar foundation on bi-regional level could include companies, universities and public institutions from both regions, extending the possibilities for cooperation and mobility significantly. On the other hand, such a bi-regional platform should also be integrative towards other organisations from Civil Society, as stressed by some interview partners, promoting the connection of science and research to society. Hereby, an interview partner from the EU pointed out that Latin American and Caribbean experiences could be more than valuable, as the connection to the Civil Society traditionally is higher in the case of LAC universities than in the EU. For example, under the label of "Extensão" Brazilian universities promote a strong connection with their communities. The outreach to these communities highlights the embeddedness of LAC universities in socio-economic environments. From a European perspective this could be an interesting docking point, considering the strong focus on Responsible Research and Innovation (RRI) that was set by the latest EU funding programmes.

9 CONCLUSIONS AND RECOMMENDATIONS

The conducted analysis gives an insight into the key institutions and patterns of bi-regional scientific cooperation, in general, as well as more specifically regarding academic mobility. Furthermore, it served to point out areas for strengthened cooperation, based on the analysis of prevalent cooperation patterns, experiences of networks, schemes and projects active in this field. A basic approach that this report took was clustering cooperation and mobility patterns between the EU and LAC in order to create an empirical basis for increasing the impact and sustainability of academic cooperation between the two regions. The analysis undertaken in Focus Area II – Clustering Higher Education Cooperation shows that there is relevant untapped potential in the bi-regional cooperation framework. This concerns not only EU funded cooperation projects but also the many institutional actors organising cooperation on a horizontal level e.g. between academic institutions, public institutions or private organisations from both regions. In general, the following observations and recommendations can be made thinking the three different focus areas of the report together.

Recommendation I - Building research clusters by exploiting synergies. Strengthening the scientific relation between EU and LAC by enhancing the impact of bi-regional academic cooperation on R&I systems and in continuation on society itself is not simply an issue of increasing budgets. Analysis has shown that the cooperation landscape is diverse and broad, but with considerable overlaps and potential synergies. As both regions are highly diverse in terms of political frameworks, R&I policy systems, geographical conditions, regional peculiarities no one size fits-it all agenda setting approach seems to be adequate.

Multiple efforts have been undertaken on LAC side to formulate common priorities and hereby strengthen their position in bi-regional relations. While this process has shown to be crucial not only for direct negotiations, but also for internal south-south connectivity, it is far away from delivering satisfactory results for all countries involved in the bi-regional cooperation process. The data illustrate that cooperation patterns have a tendency to follow the beaten paths and hereby emit the potential for innovative cooperation opportunities. Setting bi-regional policy agendas that are jointly developed on both sides helps mitigating this effect, but has to be accompanied by a clear strategy on how to exploit synergies of academic cooperation most efficiently in order to enhance its impact and effectiveness.

Building up bi-regional research clusters is a strategic tool that is targeted at exploiting synergies between existing cooperation efforts across all scales. Originally developed as an industrial policy tool, research clusters transcend the initially purely economic orientation of clusters into the realm of the academic world, fostering the impact on society and the contribution to inclusive and sustainable economic growth. A research cluster is hereby understood as an association or agglomeration of research projects/and or academic cooperation networks that can be directed towards basic research, applied thematic investigations, methodological approaches or (bi-)regionally identified priority areas. The individual members (e.g. universities, enterprises, private research organisations) of a cluster should be complementary, amplifying each other strengths and offsetting potential blind spots. The cluster formation should lead to a step-wise change in the landscape of that research area and should demonstrate a clear added value in the collaboration/cooperation over individual projects including, but not limited to, sharing of resources (research infrastructure, databases, diagnostics etc.),

harmonisation of data, sharing of specific know-how and/or innovative technologies etc. This way research clusters can serve as a connecting framework for different projects, institutions and initiatives active in certain fields of academic cooperation between the EU and LAC, going beyond the projects funded by the EU framework programmes but certainly building heavily upon them.

This process could be support by including specific requests for dedicated dissemination sections in the new Horizon Europe programme projects, feeding into a EU-LAC focus network/platform gathering information, servicing as a go-to portal for all stakeholders interested in cooperation between the two regions and paving the way for a more efficient, sustainable and impactful relation. A first step into this direction has been made by establishing the Dissemination and Exploitation Booster service by the EC, that is connecting different EU projects to thematic clusters. Extending this services to LAC research projects would be a step into the right direction.

Recommendation II - Alignment of the policy framework. The analysis highlights areas of strengths for LAC countries, as can be deducted from participation patterns in EU cooperation programmes as well as funded co-publications by national funding agencies. In the context of EULAC-relations in the higher education sector there is a distinguished policy framework for setting and determining common research priorities. The overall objective of establishing a Common Research Area is supported by the Joint Initiative on Research and Innovation (JIRI), setting priority areas that are selected for explicit EU-LAC cooperation in the EU framework programm (e.g. sustainable urbanisation and health). While the empirical analysis confirms that these bi-regionally identified priority areas are in fact having an impact on bi-regional cooperation patterns, the framework beyond EU funded programmes seems to be quite scattered and spread out.

A strong case is made for coherence and alignment of national, regional and bi—regional scientific cooperation and mobility programmes and strategies in the framework of the Common Research Area. Taking the commitment to jointly addressing grand challenges seriously also has consequences for mobility and cooperation more in general. Intervening in Research and Innovation systems can create unintended side-effects such as building up competition through mobility scholarships. While this creates many possibilities, it also generates unintended side-effects as for example that the availability of multiple scholarship programmes leads to duplications or undercutting of existing mechanisms. Therefore, alignment and harmonisation of bi-regional, regional and national efforts seem to be crucial to achieve the set out objectives. This includes also the interdependencies of R&I policies with regional economic and innovation oriented development strategies like the Smart Specialisation (RIS3) strategies. In order to ensure alignment, common discussion and strategic orientation the JIRI has to be supported by an established platform monitoring and accompanying both the policy side of R&I cooperation as well as the technical and thematic side. With the EU-LAC Foundation, the policy part of this monitoring and assessment is already there, the technical and thematic assessment instrument still needs to be established.

Recommendation III – Fostering targeted researcher mobility. Looking at mobility schemes in place, it became clear that there is already quite a wide range of possibilities for researchers and students to study or work abroad in the other region for a certain period of time. Especially in the framework of the Erasmus+ programme and the MSCA actions which are part of the EU Framework Programme. These programmes are complimented by various national initiatives like the “Fundación Carolina” (Spain) and Iberoamerican initiatives such as Capus Iberoamérica. However, the possibilities and

requirements for participation in these programmes are still not well known in some parts of the LAC scientific community. Further support measures are needed; not only in terms of promoting exchange possibilities, but also in terms of creating easier access and continued support. This is especially true for more peripheral regions of LAC, like Caribbean islands. The data on participation in mobility programmes show that there are some countries and institutions that are very proficient in participating in funded programmes, but smaller countries and universities often struggle to succeed in this highly competitive area and therefore need to be targeted more explicitly.

Furthermore, LAC as research destination for EU PhD / PostDoc fellows should be promoted more extensively, in line with the regional or national specialisation areas. Additionally, increasing the visibility of the distinctive features (USPs) of universities or research institutes that offer a unique expertise and/or access to specific regional resources (e.g. research field, databases) that are not available in the EU or elsewhere would contribute to organising mobility in a more efficient way. In alignment with the proposition of building up research clusters, the mobility of researchers could also be organised more efficiently if embedded into a coherent thematic and geographic cooperation framework. Moreover, the development of joint PhD programmes would be an asset to foster mutual exchange and scientific excellence in both regions.

Recommendation IV – Explore alternative financing options. The question of financial resources available for bi-regional mobility programmes and cooperation was omnipresent. Dedicating more resources to this area would contribute to strengthening the ties between the regions and make the outcomes more fruitful. However, funding should increasingly be diversified. A key factor would be that LAC countries progressively take the role of funding entities for bi-regional cooperation projects, giving money both to LAC and EU entities. Through this, bi-regional cooperation could unfold under more equal premises and the mutual benefit would be increased. Doing so would be possible on national level, for example through the funding agencies identified in this report, or under a common regional framework like it is provided through CELAC. Further the EU-LAC interest group of funding agencies could be a docking point to develop joint funding strategies. In relation to this, the analysis also showed the demand for including different actors in funding mobility and scientific collaborations. This could mean including Civil Society organisations as well as private corporations. While LAC universities have a lot of experience with social outreach and are strongly embedded in their communities, European examples like “Fundación Carolina” show how private companies can be included in bi-regional mobility without compromising scientific integrity.

Joint funding schemes like the ERA-Net programme have proven that joint funding generates commitment and engagement on both sides and allows to design research cooperation in a more balanced way, incorporating priorities from both regions. This is also illustrated by the numbers elaborated in this report on national funding agencies from LAC and their engagement in co-publications. The thematic priorities of these funding agencies, which are visible in the co-publication cooperation patterns, give an insight into what research areas could be especially relevant for certain countries, especially regarding smaller Central American or Caribbean states. Commitment and ownership created through co-funding could also help to organise more sustainable funding for bi-regional cooperation.

Recommendation V – Foster industry and Civil Society participation. Cooperation networks between academic institutions in LAC and the EU are diverse and, at least for some areas/regions, well

established. However, there is still a lot of potential regarding the connection of actors from industry and civil society with academic actors. The EU framework programmes for example highly encourage participation from non-academic institutions and especially SMEs and civil society organisations. Though this cooperation is encouraged, participation by non-academic actors from LAC is not on a level comparable to academic institutions.

Fostering civil society participation and citizen engagement hereby strengthens the societal acceptance of research and contributes to increase social legitimacy of science and technology. Including the civil society should not only be limited to actual project participation but should also extend to the formulation of research priorities. It is notable that first steps towards this goal have been undertaken, e.g. through the Civil Society forum in the course of EU-CELAC framework and also through focusing on the participation of local communities in EU framework programmes regarding topics such as sustainable urbanisation. Arguably, engaging citizens also contributes to creating a more open access oriented research production, that actively pursues and reflects upon principles of responsible research and innovation processes.

As regards to the business sector, if innovation expected as an outcome of academic cooperation, especially SMEs also have to be considered as a main contributor in the scientific realm. Fostering industry-civil-society-academia links hereby is a cross-directorate issue that needs to be approached not only by one programme (e.g. Framework programme 9) or institution (e.g. DG RTD), but should count on experiences and contacts made in the course of other instruments (e.g. AI-invest by DG DevCo). Connecting the existing vehicles and hereby creating new, efficient platforms (or, in other words “clusters”) is a most promising and fitting approach considering the current landscape.

Recommendation VI – Setting up monitoring mechanisms. Getting a comprehensive overview on ongoing cooperation initiatives is crucial to understand and exploit the potential of cooperation in the most efficient way. A good deal of bi-regional research efforts should be targeted to delivering tangible impacts for managing global challenges and directly benefit local communities through practical outcomes of research efforts. This means putting social impact of research cooperation projects at the core of academic cooperation and in continuation, be targeted in the specific research cooperation that are undertaken (e.g. by using “research clusters” as specialisation strategy).

Two implications arise of this finding: First, a platform has to be established that is able not only to monitor the ongoing cooperation landscape, but also to identify the existing synergies and point towards possible spaces for establishing research clusters. Second, there needs to be a clear framework for assessing the impacts of these cooperation projects, both on the cooperation as such, as well as on the societal aspects that this networks/clusters are touching upon. Only by doing so, will it be possible to adapt the research priorities to pressing needs and to assess the actual impacts of the cooperation efforts.

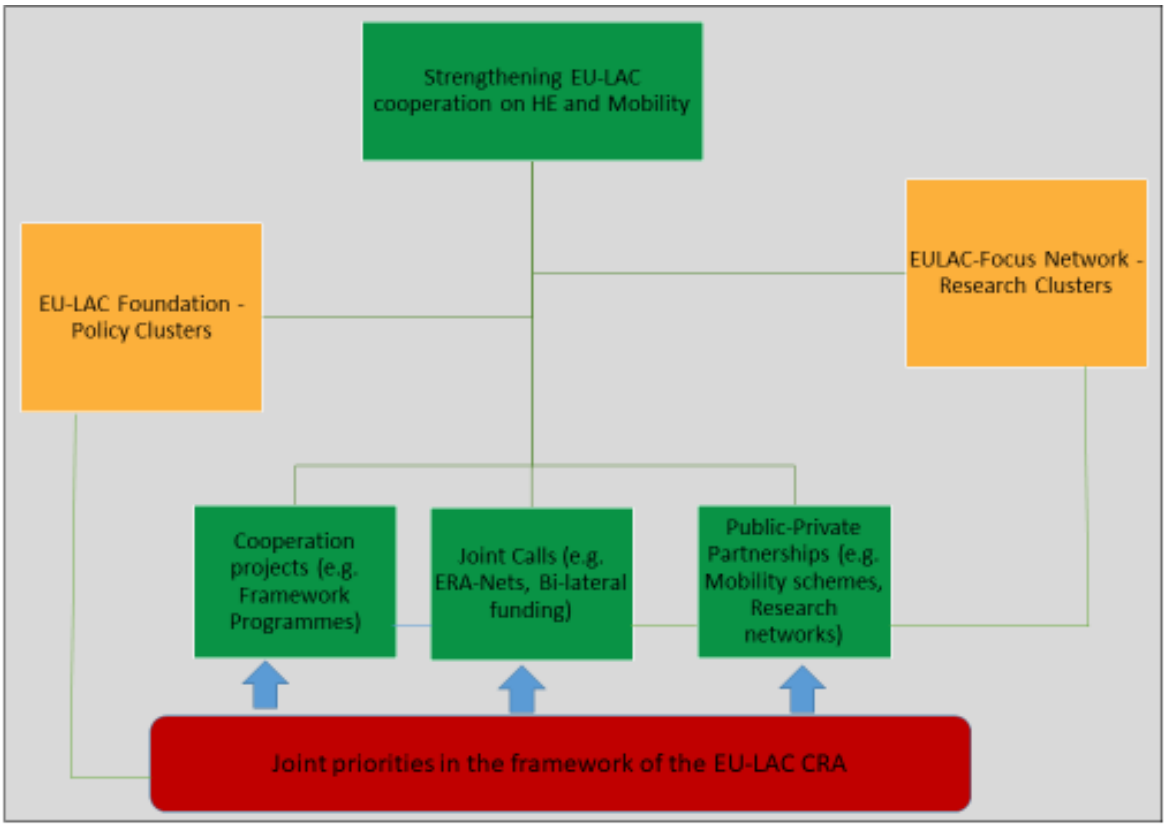
A new framework for cooperation

Following up on these recommendations would create a new framework for EU-LAC cooperation in the scientific realm that allows exploiting existing potentials as well creating new spaces of innovation and research. This framework (see Figure 79: EU-LAC research cluster framework.) would have to depart from jointly developed goals, such as elaborated in the Common Research Area and the Joint Initiative on Research and Innovation, so as to have a common ground. However, it should seek new

ways of cooperation, including a more diverse set of stakeholders, both geographically as thematically. Breaking up the beaten paths is a pre-condition for innovation, because international cooperation channels need some reviving new inputs from time to time. This does not mean to shut down well established pathways and connections, but it means remaining open and adaptable to the challenges of in globalised world.

Joint cooperation projects as funded by the EU through its framework programmes, joint calls by EU and LAC funding agencies as well as innovative forms of public-private partnerships that include business and civil society actors are the foundation for bi-regional cooperation in the scientific dimension. Through identifying synergies between these three different layers of scientific cooperation, research clusters can be built up that enhance impact and sustainability of cooperation efforts by connecting actors and sharing available infrastructure and resources without duplicating efforts. For doing so, a permanent observation platform should be established, operating in small teams on the different topics of bi-regional cooperation bringing actors and instruments together. Jointly with the EULAC foundation, these efforts are mediated on a political and inter-governmental level, securing broad support for the development and sustainability of these clustered cooperation efforts.

Figure 79: EU-LAC research cluster framework.



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ANNEX I

EU-LAC Funded Research in Web of Science (2005-2017)

Elaborated by: Sergio Minniti, sminniti@yachaytech.edu.ec

Sample: EULAC 2005-2017

Results: **176,507**

CU=(Brazil or Mexico or Colombia or Argentina or Peru or Venezuela or Chile or Ecuador or Guatemala or Haiti or Bolivia or Dominican Republic of Honduras or Paraguay or Nicaragua or El Salvador or Costa Rica or Panama or Puerto Rico or Uruguay or Guadeloupe or Martinique or Trinidad and Tobago or Jamaica or Bahamas or Barbados or Saint Lucia or Curacao or Aruba or Saint Vincent and the Grenadines or United States Virgin Islands or Grenada or Antigua and Barbuda or Dominica or Cayman Islands or Saint Kitts and Nevis or Sint Maarten or Turks and Caicos Islands and Saint Martin or British Virgin Islands or Caribbean Netherlands or Anguilla or Saint Barthelemy or Montserrat or Cuba or Suriname or Belize or French Guiane or Guyana or Falkland Islands) AND CU=(Belgium OR Denmark OR France OR Germany OR Greece OR Ireland OR Italy OR Luxembourg OR Netherlands OR Portugal OR Spain OR United Kingdom OR Austria OR Finland OR Sweden OR Cyprus OR Czech Republic OR Estonia OR Hungary OR Latvia OR Lithuania OR Malta OR Poland OR Slovakia OR Slovenia OR Bulgaria OR Romania OR Croatia)

Timespan: 2005-2017. **Indexes:** SCI-EXPANDED, SSCI, A&HCI, ESCI.

Synthesis: In the WoS database (2005-2017) there are 176,507 EU-LAC co-published documents. There is a total of 31,085 funding agencies within the EULAC sample, which funded researches resulting in 102,621 documents (58.140%), while 73,886 documents (41.860%) are indexed by WoS as not funded.

Amongst the top 50 funding agencies we find 11 LAC agencies and 39 EU agencies.

Top 50 EU-LAC Funding Agencies (2005-2017)

#	Region	Funding Agencies (TOP 50)	records	Countries/Territories (Top 10)	records	Publication Years	records

1	LAC	CNPQ Conselho Nacional de Desenvolvimento Científico e Tecnológico www.cnpq.br	15645	BRAZIL	15583	2016	2654
				FRANCE	5083	2015	2148
				GERMANY	4680	2017	2073
				SPAIN	4611	2014	1979
				USA	3685	2013	1768
				ITALY	3457	2012	1608
				PORTUGAL	2984	2011	1337
				ENGLAND	2721	2010	1002
				RUSSIA	2112	2009	803
				NETHERLANDS	2090	2008	255
						2007	9
						2005	5
						2006	4
2	LAC	CAPES Coordenação de Aperfeicoamento de Pessoal de Nível Superior www.capes.gov.br	8645	BRAZIL	8607	2016	1512
				FRANCE	2793	2015	1253
				SPAIN	2440	2017	1204
				GERMANY	2195	2014	1079
				PORTUGAL	1763	2013	987
				ITALY	1681	2012	829
				USA	1649	2011	688
				ENGLAND	1221	2010	505
				SWITZERLAND	991	2009	443
				POLAND	987	2008	139
						2007	5
						2005	1
3	LAC	FAPESP	7920	BRAZIL	7902	2016	1299
				FRANCE	2891	2015	1112

		Fundação de Amparo à Pesquisa do Estado de São Paulo www.fapesp.br		GERMANY	2860	2017	1004
				SPAIN	2733	2014	974
				USA	2423	2013	922
				ITALY	2199	2012	864
				ENGLAND	1866	2011	688
				PORTUGAL	1839	2010	501
				RUSSIA	1608	2009	408
				PEOPLES R CHINA	1566	2008	141
						2006	4
						2007	2
						2005	1
4	LAC	CONACYT Consejo Nacional de Ciencia y Tecnología (Mexico, Bolivia, Paraguay) www.conacyt.gob.mx www.conacyt.gov.bo http://www.conacyt.gov.py/	6189	MEXICO	6110	2016	831
				SPAIN	3071	2015	757
				FRANCE	1962	2013	728
				GERMANY	1740	2012	721
				USA	1629	2014	717
				ITALY	1211	2017	702
				ENGLAND	1089	2011	632
				BRAZIL	1026	2010	523
				RUSSIA	929	2009	402
				CZECH REPUBLIC	915	2008	168
						2007	4
						2005	3
						2006	1
5	LAC	CONICET Consejo Nacional de Investigaciones	4048	ARGENTINA	4027	2016	529
				SPAIN	1594	2015	498
				GERMANY	1090	2014	481

		Científicas y Técnicas www.conicet.gov.ar		FRANCE	889	2012	468
				USA	505	2017	433
				ITALY	441	2011	410
				BRAZIL	391	2013	396
				ENGLAND	276	2010	369
				NETHERLANDS	251	2009	334
				SWEDEN	204	2008	124
						2007	5
						2005	1
6	LAC	FONDECYT Fondo Nacional de Desarrollo Científico y Tecnológico www.conicyt.cl/fondecyt	4010	CHILE	4001	2016	625
				SPAIN	1328	2015	563
				GERMANY	1085	2017	527
				FRANCE	1062	2013	479
				USA	805	2014	475
				ITALY	469	2012	394
				ENGLAND	455	2011	357
				AUSTRALIA	219	2010	289
				BELGIUM	218	2009	230
				BRAZIL	188	2008	70
						2006	1
7	LAC	ANPCYT AGENCIA NACIONAL DE PROMOCIÓN CIENTÍFICA Y TECNOLÓGICA www.agencia.mincyt.gob.ar/	2727	ARGENTINA	2724	2012	366
				SPAIN	1434	2016	361
				GERMANY	1102	2015	357
				FRANCE	1034	2014	322
				ITALY	834	2013	305
				USA	814	2017	280
				BRAZIL	720	2011	280

				ENGLAND	693	2010	218
				PORTUGAL	680	2009	169
				NETHERLANDS	680	2008	64
						2007	3
						2006	1
8	LAC	FAPERJ Fundação de Amparo à Pesquisa do Estado do Rio de Janeiro www.faperj.br/	2385	BRAZIL	2376	2013	335
				FRANCE	1470	2016	317
				GERMANY	1303	2014	304
				USA	1237	2015	303
				SPAIN	1161	2012	298
				ENGLAND	1110	2017	253
				ITALY	1069	2011	237
				RUSSIA	1060	2010	162
				PEOPLES R CHINA	1055	2009	128
				SWITZERLAND	906	2008	44
						2007	2
						2005	2
9	LAC	CONICYT Comisión Nacional de Investigación Científica y Tecnológica www.conicyt.cl/ *+* *ECOS-CONICYT* *Programa de Cooperación Científica* www.conicyt.cl/pci/tag/ecos-conicyt/	2326	CHILE	2304	2016	389
				FRANCE	1195	2015	314
				SPAIN	1181	2013	296
				GERMANY	1027	2012	281
				USA	949	2014	271
				ENGLAND	791	2017	259
				ITALY	782	2011	247
				AUSTRALIA	699	2010	151
				SWEDEN	690	2009	78
				DENMARK	680	2008	37

						2007	1
						2006	1
						2005	1
10	LAC	COLCIENCIAS COLOMBIA Departamento Administrativo de Ciencia, Tecnología e Innovación www.colciencias.gov.co/	2009	COLOMBIA	1998	2012	329
				SPAIN	1599	2016	306
				FRANCE	1422	2013	270
				GERMANY	1418	2015	239
				USA	1390	2014	216
				BRAZIL	1355	2011	208
				ENGLAND	1350	2017	187
				PEOPLES R CHINA	1326	2010	115
				RUSSIA	1316	2009	94
				CZECH REPUBLIC	1287	2008	43
						2007	2
11	LAC	FAPEMIG Fundação de Amparo à Pesquisa de Minas Gerais www.fapemig.br/	983	BRAZIL	982	2016	165
				FRANCE	243	2015	149
				SPAIN	215	2014	145
				GERMANY	170	2017	124
				PORTUGAL	130	2013	115
				ITALY	108	2012	97
				USA	106	2011	80
				NETHERLANDS	79	2010	58
				ENGLAND	43	2009	34
				BELGIUM	39	2008	13
						2007	3

#	Region	Funding Agencies (TOP 50)	records	Countries/Territories (Top 10)	records	Publication Years	records
1	EU	DFG GERMANY DEUTSCHE FORSCHUNGSGEMEINSCHAFT www.dfg.de/	5168	GERMANY	5091	2016	756
				BRAZIL	2885	2015	670
				USA	2625	2012	651
				ENGLAND	2230	2014	623
				FRANCE	2210	2013	614
				SPAIN	2022	2017	553
				ITALY	1824	2011	538
				RUSSIA	1801	2010	385
				PEOPLES R CHINA	1778	2009	293
				SWITZERLAND	1745	2008	80
						2007	4
						2005	1
2	EU	MICINN SPANISH MINISTRY OF SCIENCE AND INNOVATION Ministerio de Ciencia e Innovacion www.micinn.es	4443	SPAIN	4381	2012	951
				BRAZIL	1466	2011	764
				MEXICO	1190	2013	637
				USA	1138	2014	529
				CHILE	1036	2010	447
				ARGENTINA	999	2015	429
				GERMANY	962	2016	313
				FRANCE	918	2017	196
				ENGLAND	893	2009	159
				ITALY	856	2008	17
						2005	1
3	EU	MINECO SPAIN	4059	SPAIN	4022	2016	1199
				BRAZIL	1731	2017	1008

		MINISTERIO DE ECONOMIA Y COMPETITIVIDAD (Ministry of Economy and Competitiveness) www.idi.mineco.gob.es/		USA	1298	2015	870
				GERMANY	1140	2014	586
				FRANCE	1097	2013	339
				CHILE	1064	2012	57
				ENGLAND	1058		
				ITALY	965		
				ARGENTINA	911		
				NETHERLANDS	818		
4	EU	EUROPEAN UNION	2991	SPAIN	1362	2016	445
				BRAZIL	1326	2015	416
				GERMANY	1086	2011	349
				FRANCE	1066	2014	343
				USA	1021	2012	341
				ENGLAND	954	2010	312
				ITALY	935	2017	294
				CHILE	661	2013	291
				ARGENTINA	657	2009	147
				MEXICO	615	2008	50
						2007	2
						2006	1
5	EU	FCT PORTUGAL Fundação para a Ciência e a Tecnologia www.fct.pt/	2885	PORTUGAL	2855	2016	480
				BRAZIL	2421	2015	406
				SPAIN	1280	2012	374
				USA	1199	2013	373
				GERMANY	1154	2014	363
				FRANCE	1147	2017	360
				ENGLAND	1131	2011	261

				ITALY	1096	2010	147
				SWITZERLAND	1080	2009	96
				COLOMBIA	1036	2008	25
6	EU	EUROPEAN RESEARCH COUNCIL erc.europa.eu/	2545	USA	1856	2016	536
				ENGLAND	1746	2015	471
				GERMANY	1742	2017	406
				FRANCE	1718	2014	359
				BRAZIL	1697	2013	324
				SPAIN	1609	2012	303
				ITALY	1523	2011	112
				SWITZERLAND	1438	2010	28
				POLAND	1331	2009	6
				PEOPLES R CHINA	1303		
7	EU	STFC UNITED KINGDOM Science and Technology Facilities Council www.stfc.ac.uk/	2375	ENGLAND	2317	2016	426
				USA	2175	2012	344
				GERMANY	2147	2015	320
				FRANCE	2040	2013	319
				SPAIN	1903	2014	303
				BRAZIL	1846	2017	243
				ITALY	1843	2011	233
				RUSSIA	1838	2010	99
				PEOPLES R CHINA	1752	2009	69
				SWITZERLAND	1657	2008	19
8	EU	FEDER/ERDF Fondo Europeo de Desarrollo Regional/ EUROPEAN REGIONAL	2039	SPAIN	1595	2016	388
				BRAZIL	1035	2017	351
				MEXICO	803	2015	283
				PORTUGAL	802	2014	262

		DEVELOPMENT FUND http://ec.europa.eu/regional_policy/es/funding/erdf/		USA	622	2013	239
				FRANCE	598	2012	202
				GERMANY	570	2011	132
				COLOMBIA	545	2010	101
				ITALY	533	2009	57
				ENGLAND	528	2008	23
						2006	1
9	EU	BMBF GERMANY Bundesministerium für Bildung und Forschung www.bmbf.de	1922	GERMANY	1913	2012	333
				BRAZIL	1777	2013	290
				USA	1713	2016	258
				FRANCE	1699	2015	248
				RUSSIA	1679	2014	236
				PEOPLES R CHINA	1672	2011	211
				ENGLAND	1658	2017	172
				SPAIN	1568	2010	91
				ITALY	1471	2009	60
				SWITZERLAND	1468	2008	23
10	EU	MPG GERMANY Max Planck Gesellschaft www.mpg.de/	1730	GERMANY	1541	2016	312
				USA	1346	2015	265
				SPAIN	1230	2012	251
				FRANCE	1205	2014	240
				ENGLAND	1192	2013	240
				BRAZIL	1170	2017	168
				ITALY	1144	2011	136
				NETHERLANDS	1039	2010	79
				SWITZERLAND	1012	2009	29
				RUSSIA	989	2008	9

						2007	1
11	EU	ALEXANDER VON HUMBOLDT FOUNDATION www.humboldt-foundation.de/	1723	GERMANY	1653	2016	332
				BRAZIL	1305	2012	265
				USA	1218	2017	243
				SPAIN	1166	2015	233
				FRANCE	1160	2014	192
				ENGLAND	1154	2013	173
				PEOPLES R CHINA	1127	2011	134
				ITALY	1127	2010	82
				RUSSIA	1118	2009	44
				COLOMBIA	1117	2008	25
12	EU	SRC SWEDISH RESEARCH COUNCIL https://www.vr.se/	1631	SWEDEN	1607	2016	287
				BRAZIL	1165	2015	244
				USA	1142	2012	235
				GERMANY	1050	2013	201
				ENGLAND	1018	2014	189
				FRANCE	959	2017	159
				SPAIN	913	2011	151
				NETHERLANDS	900	2010	87
				PEOPLES R CHINA	867	2009	59
				RUSSIA	863	2008	19
13	EU	HGF GERMANY Helmholtz Gemeinschaft Deutscher Forschungszentren www.helmholtz.de/	1568	GERMANY	1563	2012	288
				BRAZIL	1552	2013	270
				USA	1541	2015	248
				ITALY	1539	2016	245
				SPAIN	1537	2014	211
				RUSSIA	1536	2011	133

				FRANCE	1536	2017	128
				POLAND	1535	2010	45
				SWITZERLAND	1534		
				ENGLAND	1534		
14	EU	INFN ITALY Istituto Nazionale di Fisica Nucleare home.infn.it/	1562	ITALY	1555	2012	278
				USA	1548	2016	254
				BRAZIL	1547	2013	253
				SPAIN	1546	2015	233
				FRANCE	1545	2014	200
				GERMANY	1544	2017	165
				ENGLAND	1543	2011	131
				SWITZERLAND	1542	2010	43
				RUSSIA	1538	2009	3
				PEOPLES R CHINA	1536	2008	2
15	EU	CEA FRANCE Commissariat Energie Atomique www.cea.fr/ + CEA DSM IRFU FRANCE irfu.cea.fr/en/	1548	FRANCE	1524	2012	277
				USA	1497	2016	235
				GERMANY	1481	2013	226
				ENGLAND	1475	2015	200
				BRAZIL	1443	2014	188
				RUSSIA	1418	2011	169
				PEOPLES R CHINA	1412	2017	131
				CZECH REPUBLIC	1364	2010	69
				SPAIN	1362	2009	38
				ITALY	1263	2008	15
16	EU	ICREA	1511	SPAIN	1510	2016	280
				USA	1046	2012	247
				BRAZIL	1024	2015	238

		Catalan Institution for Research and Advanced Studies www.icrea.cat		GERMANY	954	2014	193
				ENGLAND	944	2013	171
				FRANCE	930	2011	139
				SWEDEN	793	2017	82
				ARGENTINA	780	2010	52
				RUSSIA	774	2008	42
				PEOPLES R CHINA	774	2009	39
						2007	11
						2006	9
						2005	8
17	EU	CERN Conseil Européen pour la Recherche Nucléaire www.home.cern/	1452	SWITZERLAND	1446	2012	255
				ITALY	1445	2016	248
				USA	1444	2013	237
				BRAZIL	1444	2015	221
				SPAIN	1442	2014	180
				FRANCE	1441	2017	158
				RUSSIA	1439	2011	119
				GERMANY	1439	2010	35
				PEOPLES R CHINA	1437		
				ENGLAND	1436		
18	EU	EUROPEAN COMMISSION	1360	SPAIN	604	2016	191
				BRAZIL	543	2015	162
				FRANCE	451	2014	155
				GERMANY	411	2011	153
				USA	410	2013	151
				ITALY	361	2012	148
				ENGLAND	322	2010	141

				NETHERLANDS	279	2009	115
				CHILE	251	2017	104
				BELGIUM	245	2008	38
						2007	2
						2006	1
19	EU	CNRS IN2P3 FRANCE Institut national de physique nucléaire et de physique des particules (National Institute of Nuclear and Particle Physics) www.in2p3.fr/	1357	USA	1352	2012	246
				FRANCE	1351	2013	226
				GERMANY	1350	2015	194
				BRAZIL	1350	2016	192
				RUSSIA	1344	2014	167
				PEOPLES R CHINA	1343	2017	130
				ENGLAND	1341	2011	125
				SPAIN	1285	2010	47
				SWITZERLAND	1194	2009	22
				ITALY	1189	2008	8
20	EU	NWO NETHERLANDS Nederlandse Organisatie Voor Wetenschappelijk Onderzoek (Netherlands Organisation for Scientific Research) www.nwo.nl/ + FOM NETHERLANDS www.nwo-i.nl/en/	1307	BRAZIL	1305	2012	239
				USA	1304	2013	207
				NETHERLANDS	1304	2016	205
				GERMANY	1303	2015	184
				FRANCE	1303	2014	167
				ENGLAND	1303	2011	111
				RUSSIA	1292	2017	96
				PEOPLES R CHINA	1285	2010	41
				SPAIN	1206	2009	39
				ITALY	1104	2008	18
21	EU	SFI IRELAND	1233	USA	1126	2013	228
				GERMANY	1116	2012	199

		Science Foundation Ireland www.sfi.ie/		ENGLAND	1110	2014	173
				BRAZIL	1102	2011	151
				FRANCE	1092	2016	149
				RUSSIA	1079	2015	111
				SPAIN	1003	2017	90
				PEOPLES R CHINA	999	2010	69
				IRELAND	986	2009	42
				ITALY	907	2008	21
22	EU	ACADEMY OF FINLAND www.aka.fi/	1231	FINLAND	1219	2016	224
				BRAZIL	905	2015	180
				USA	865	2013	170
				GERMANY	823	2017	156
				SPAIN	795	2012	155
				ITALY	786	2014	140
				ENGLAND	784	2011	114
				FRANCE	769	2010	62
				MEXICO	751	2009	21
				SWITZERLAND	737	2008	8
						2007	1
23	EU	GSRT GREECE General Secretariat for Research and Technology www.gsrt.gr/	1160	GREECE	1157	2012	215
				BRAZIL	1156	2016	208
				USA	1154	2015	167
				FRANCE	1154	2013	150
				SWITZERLAND	1153	2014	125
				RUSSIA	1153	2017	124
				ITALY	1153	2011	121
				SPAIN	1152	2010	42

				GERMANY	1152	2009	6
				ENGLAND	1151	2008	2
24	EU	ROYAL SOCIETY royalsociety.org/	1124	ENGLAND	1107	2016	207
				USA	1035	2012	181
				GERMANY	1004	2015	180
				FRANCE	976	2014	139
				BRAZIL	969	2011	120
				NETHERLANDS	951	2013	110
				SPAIN	917	2017	109
				RUSSIA	916	2010	46
				PEOPLES R CHINA	913	2009	29
				COLOMBIA	808	2008	3
25	EU	FWF AUSTRIA Austrian Science Fund https://www.fwf.ac.at/en/	1068	AUSTRIA	1057	2016	262
				BRAZIL	860	2015	212
				GERMANY	846	2017	162
				USA	844	2013	160
				SPAIN	807	2014	159
				ENGLAND	802	2012	51
				ITALY	799	2011	20
				FRANCE	798	2010	20
				SWITZERLAND	795	2009	15
				RUSSIA	783	2008	5
						2007	2
26	EU	CNRS	1008	FRANCE	970	2016	152
				BRAZIL	441	2015	135
				USA	303	2014	120
				CHILE	262	2017	114

		CENTRE NATIONAL DE LA RECHERCHE SCIENTIFIQUE www.cnrs.fr/		GERMANY	245	2012	107
				ENGLAND	221	2011	107
				MEXICO	182	2013	105
				ITALY	175	2010	91
				ARGENTINA	174	2009	60
				SPAIN	165	2008	16
						2007	1
27	EU	MNISW POLAND Ministerstwo Nauki i Szkolnictwa Wyższego (MSHE Poland - Ministry of Science and Higher Education) www.nauka.gov.pl/en	997	GERMANY	994	2016	212
				USA	993	2015	191
				SWITZERLAND	993	2012	163
				RUSSIA	993	2017	133
				POLAND	993	2014	123
				PEOPLES R CHINA	993	2013	122
				ITALY	993	2011	51
				FRANCE	993	2010	2
				ENGLAND	993		
				BRAZIL	993		
28	EU	LEVERHULME TRUST UNITED KINGDOM www.leverhulme.ac.uk/	852	ENGLAND	830	2016	209
				USA	758	2012	141
				ITALY	739	2017	126
				GERMANY	738	2015	120
				FRANCE	734	2014	97
				SPAIN	728	2013	83
				BRAZIL	711	2011	54
				SCOTLAND	686	2010	18
				POLAND	678	2009	4
				NETHERLANDS	678		

29	EU	JUNTA DE ANDALUCIA www.juntadeandalucia.es/	817	SPAIN	811	2012	119
				BRAZIL	210	2016	115
				MEXICO	207	2015	102
				ARGENTINA	205	2011	98
				CHILE	153	2014	89
				USA	99	2013	84
				GERMANY	86	2010	74
				FRANCE	78	2017	71
				ITALY	53	2009	45
				ENGLAND	53	2008	20
30	EU	RCN NORWAY The Research Council of Norway www.forskningsradet.no/en/Home+page/1177315753906	812	USA	809	2016	189
				ITALY	809	2012	145
				SPAIN	808	2015	132
				NORWAY	808	2014	108
				FRANCE	808	2013	105
				ENGLAND	808	2011	73
				GERMANY	807	2017	51
				POLAND	805	2010	8
				DENMARK	805	2009	1
				NETHERLANDS	804		
31	EU	SPANISH GOVERNMENT	700	SPAIN	694	2015	115
				BRAZIL	177	2016	110
				MEXICO	149	2014	101
				CHILE	130	2013	88
				ARGENTINA	130	2017	87
				USA	71	2012	67
				COLOMBIA	65	2010	48

				GERMANY	45	2011	45
				ITALY	39	2009	34
				FRANCE	38	2008	5
32	EU	DNSRC DENMARK Danish Natural Science Research Council ufm.dk/site/english/councils-commissions-committees/scientific-research-councils/the-danish-natural-science-research-council	699	DENMARK	698	2016	156
				USA	673	2015	122
				BRAZIL	669	2012	122
				GERMANY	665	2013	88
				FRANCE	663	2014	83
				ITALY	662	2017	52
				ENGLAND	660	2011	47
				SPAIN	658	2010	22
				PEOPLES R CHINA	656	2009	7
				JAPAN	656		
33	EU	EPLANET EUROPEAN UNION European Particle physics Latin American NETwork ep-news.web.cern.ch/	631	GERMANY	631	2016	174
				FRANCE	631	2015	171
				BRAZIL	631	2017	111
				USA	630	2014	86
				SWITZERLAND	630	2013	62
				SPAIN	630	2012	27
				RUSSIA	630		
				POLAND	630		
				PEOPLES R CHINA	630		
				ITALY	630		
34	EU	WALLENBERG FOUNDATION SWEDEN www.wallenberg.org/en	620	USA	620	2012	131
				RUSSIA	620	2016	123
				JAPAN	620	2015	105
				FRANCE	620	2013	75

				SWEDEN	619	2014	72
				ISRAEL	619	2011	60
				BRAZIL	619	2017	48
				CZECH REPUBLIC	618	2010	4
				PEOPLES R CHINA	616	2009	2
				GERMANY	615		
35	EU	MSSR SLOVAKIA www.justice.gov.sk/Stranky/default.aspx	592	USA	592	2012	123
				TURKEY	592	2016	118
				SWITZERLAND	592	2015	101
				SPAIN	592	2014	75
				RUSSIA	592	2013	73
				POLAND	592	2017	50
				NORWAY	592	2011	50
				JAPAN	592	2010	2
				ITALY	592		
				GREECE	592		
36	EU	WELLCOME TRUST wellcome.ac.uk/	584	ENGLAND	463	2016	91
				USA	306	2015	77
				BRAZIL	273	2017	67
				GERMANY	189	2014	61
				FRANCE	169	2013	52
				SPAIN	166	2012	42
				ITALY	142	2011	41
				NETHERLANDS	136	2010	34
				SCOTLAND	114	2007	33
				AUSTRALIA	112	2009	32
						2008	22

						2006	18
						2005	14
37	EU	GENERALITAT DE CATALUNYA www.catalangovernment.eu/	577	SPAIN	574	2016	92
				BRAZIL	178	2015	89
				ARGENTINA	136	2012	67
				MEXICO	101	2017	66
				CHILE	88	2014	63
				USA	69	2013	57
				GERMANY	58	2011	53
				FRANCE	45	2010	47
				ITALY	44	2009	24
				ENGLAND	41	2008	18
						2006	1
38	EU	VSC CR CZECH REPUBLIC	572	USA	572	2012	119
				TURKEY	572	2016	118
				SWITZERLAND	572	2015	101
				SPAIN	572	2013	71
				RUSSIA	572	2014	69
				POLAND	572	2017	47
				NORWAY	572	2011	47
				JAPAN	572		
				ITALY	572		
				GREECE	572		
39	EU	GENERALITAT VALENCIANA www.gva.es/	529	SPAIN	529	2016	105
				BRAZIL	197	2015	83
				MEXICO	116	2017	73
				ARGENTINA	80	2014	54

				CHILE	62	2013	52
				USA	54	2011	49
				COLOMBIA	49	2012	47
				FRANCE	45	2010	36
				GERMANY	44	2009	21
				ITALY	42	2008	9

ANNEX II

Country	Topic	Topic in total country's participation (in %)	Participation by country by topic (n)	Country's participation in topic (in %)	Total participation	Projects by country	Projects by topic
Argentina	ENERGY	1.50%	2	40.00%	132	103	2
Argentina	ENV	5.30%	7	21.90%	132	103	22
Argentina	ERC	0.00%	0	0.00%	132	103	6
Argentina	EURATOM	0.00%	0	0.00%	132	103	1
Argentina	FET	0.00%	0	0.00%	132	103	3
Argentina	FOOD	7.60%	10	23.30%	132	103	29
Argentina	GENDEREQ	0.00%	0	0.00%	132	103	1
Argentina	GOV	0.00%	0	0.00%	132	103	4
Argentina	HEALTH	9.10%	12	15.40%	132	103	17
Argentina	INEGSOC	0.00%	0	0.00%	132	103	4
Argentina	INFRA	0.80%	1	7.70%	132	103	6
Argentina	INNOSUPSME	0.00%	0	0.00%	132	103	1
Argentina	LEIT-ADVMAT	0.80%	1	25.00%	132	103	3
Argentina	LEIT-BIOTECH	0.80%	1	50.00%	132	103	2
Argentina	LEIT-ICT	0.80%	1	3.20%	132	103	13
Argentina	LEIT-NMP	0.00%	0	0.00%	132	103	1
Argentina	LEIT-SPACE	0.00%	0	0.00%	132	103	2
Argentina	MSCA	71.20%	94	26.10%	132	103	171
Argentina	SECURITY	0.80%	1	100.00%	132	103	1
Argentina	SOCIETY	1.50%	2	7.10%	132	103	7
Argentina	TPT	0.00%	0	0.00%	132	103	1
Bolivia	ENERGY	0.00%	0	0.00%	5	5	2
Bolivia	ENV	0.00%	0	0.00%	5	5	22
Bolivia	ERC	0.00%	0	0.00%	5	5	6
Bolivia	EURATOM	0.00%	0	0.00%	5	5	1
Bolivia	FET	0.00%	0	0.00%	5	5	3
Bolivia	FOOD	0.00%	0	0.00%	5	5	29
Bolivia	GENDEREQ	0.00%	0	0.00%	5	5	1
Bolivia	GOV	0.00%	0	0.00%	5	5	4
Bolivia	HEALTH	0.00%	0	0.00%	5	5	17
Bolivia	INEGSOC	20.00%	1	20.00%	5	5	4
Bolivia	INFRA	0.00%	0	0.00%	5	5	6
Bolivia	INNOSUPSME	0.00%	0	0.00%	5	5	1
Bolivia	LEIT-ADVMAT	0.00%	0	0.00%	5	5	3
Bolivia	LEIT-BIOTECH	0.00%	0	0.00%	5	5	2
Bolivia	LEIT-ICT	0.00%	0	0.00%	5	5	13
Bolivia	LEIT-NMP	0.00%	0	0.00%	5	5	1
Bolivia	LEIT-SPACE	0.00%	0	0.00%	5	5	2
Bolivia	MSCA	80.00%	4	1.10%	5	5	171

Bolivia	SECURITY	0.00%	0	0.00%	5	5	1
Bolivia	SOCIETY	0.00%	0	0.00%	5	5	7
Bolivia	TPT	0.00%	0	0.00%	5	5	1
Brazil	ENERGY	0.00%	0	0.00%	167	105	2
Brazil	ENV	4.80%	8	25.00%	167	105	22
Brazil	ERC	1.20%	2	33.30%	167	105	6
Brazil	EURATOM	0.00%	0	0.00%	167	105	1
Brazil	FET	3.60%	6	75.00%	167	105	3
Brazil	FOOD	6.00%	10	23.30%	167	105	29
Brazil	GENDEREQ	0.00%	0	0.00%	167	105	1
Brazil	GOV	0.60%	1	20.00%	167	105	4
Brazil	HEALTH	14.40%	24	30.80%	167	105	17
Brazil	INEGSOC	2.40%	4	80.00%	167	105	4
Brazil	INFRA	0.60%	1	7.70%	167	105	6
Brazil	INNOSUPSME	0.00%	0	0.00%	167	105	1
Brazil	LEIT-ADVMAT	1.80%	3	75.00%	167	105	3
Brazil	LEIT-BIOTECH	0.00%	0	0.00%	167	105	2
Brazil	LEIT-ICT	6.00%	10	32.30%	167	105	13
Brazil	LEIT-NMP	0.00%	0	0.00%	167	105	1
Brazil	LEIT-SPACE	3.00%	5	100.00%	167	105	2
Brazil	MSCA	46.70%	78	21.70%	167	105	171
Brazil	SECURITY	0.00%	0	0.00%	167	105	1
Brazil	SOCIETY	8.40%	14	50.00%	167	105	7
Brazil	TPT	0.60%	1	100.00%	167	105	1
Chile	ENERGY	0.00%	0	0.00%	91	71	2
Chile	ENV	4.40%	4	12.50%	91	71	22
Chile	ERC	2.20%	2	33.30%	91	71	6
Chile	EURATOM	0.00%	0	0.00%	91	71	1
Chile	FET	0.00%	0	0.00%	91	71	3
Chile	FOOD	5.50%	5	11.60%	91	71	29
Chile	GENDEREQ	0.00%	0	0.00%	91	71	1
Chile	GOV	1.10%	1	20.00%	91	71	4
Chile	HEALTH	7.70%	7	9.00%	91	71	17
Chile	INEGSOC	0.00%	0	0.00%	91	71	4
Chile	INFRA	2.20%	2	15.40%	91	71	6
Chile	INNOSUPSME	1.10%	1	100.00%	91	71	1
Chile	LEIT-ADVMAT	0.00%	0	0.00%	91	71	3
Chile	LEIT-BIOTECH	1.10%	1	50.00%	91	71	2
Chile	LEIT-ICT	0.00%	0	0.00%	91	71	13
Chile	LEIT-NMP	1.10%	1	100.00%	91	71	1
Chile	LEIT-SPACE	0.00%	0	0.00%	91	71	2
Chile	MSCA	71.40%	65	18.10%	91	71	171
Chile	SECURITY	0.00%	0	0.00%	91	71	1
Chile	SOCIETY	2.20%	2	7.10%	91	71	7
Chile	TPT	0.00%	0	0.00%	91	71	1

Colombia	ENERGY	0.00%	0	0.00%	54	46	2
Colombia	ENV	9.30%	5	15.60%	54	46	22
Colombia	ERC	1.90%	1	16.70%	54	46	6
Colombia	EURATOM	0.00%	0	0.00%	54	46	1
Colombia	FET	0.00%	0	0.00%	54	46	3
Colombia	FOOD	3.70%	2	4.70%	54	46	29
Colombia	GENDEREQ	0.00%	0	0.00%	54	46	1
Colombia	GOV	3.70%	2	40.00%	54	46	4
Colombia	HEALTH	20.40%	11	14.10%	54	46	17
Colombia	INEGSOC	0.00%	0	0.00%	54	46	4
Colombia	INFRA	1.90%	1	7.70%	54	46	6
Colombia	INNOSUPSME	0.00%	0	0.00%	54	46	1
Colombia	LEIT-ADVMAT	0.00%	0	0.00%	54	46	3
Colombia	LEIT-BIOTECH	0.00%	0	0.00%	54	46	2
Colombia	LEIT-ICT	1.90%	1	3.20%	54	46	13
Colombia	LEIT-NMP	0.00%	0	0.00%	54	46	1
Colombia	LEIT-SPACE	0.00%	0	0.00%	54	46	2
Colombia	MSCA	57.40%	31	8.60%	54	46	171
Colombia	SECURITY	0.00%	0	0.00%	54	46	1
Colombia	SOCIETY	0.00%	0	0.00%	54	46	7
Colombia	TPT	0.00%	0	0.00%	54	46	1
Costa Rica	ENERGY	0.00%	0	0.00%	16	16	2
Costa Rica	ENV	0.00%	0	0.00%	16	16	22
Costa Rica	ERC	0.00%	0	0.00%	16	16	6
Costa Rica	EURATOM	0.00%	0	0.00%	16	16	1
Costa Rica	FET	0.00%	0	0.00%	16	16	3
Costa Rica	FOOD	18.80%	3	7.00%	16	16	29
Costa Rica	GENDEREQ	6.30%	1	100.00%	16	16	1
Costa Rica	GOV	0.00%	0	0.00%	16	16	4
Costa Rica	HEALTH	6.30%	1	1.30%	16	16	17
Costa Rica	INEGSOC	0.00%	0	0.00%	16	16	4
Costa Rica	INFRA	0.00%	0	0.00%	16	16	6
Costa Rica	INNOSUPSME	0.00%	0	0.00%	16	16	1
Costa Rica	LEIT-ADVMAT	0.00%	0	0.00%	16	16	3
Costa Rica	LEIT-BIOTECH	0.00%	0	0.00%	16	16	2
Costa Rica	LEIT-ICT	0.00%	0	0.00%	16	16	13
Costa Rica	LEIT-NMP	0.00%	0	0.00%	16	16	1
Costa Rica	LEIT-SPACE	0.00%	0	0.00%	16	16	2
Costa Rica	MSCA	56.30%	9	2.50%	16	16	171
Costa Rica	SECURITY	0.00%	0	0.00%	16	16	1
Costa Rica	SOCIETY	12.50%	2	7.10%	16	16	7
Costa Rica	TPT	0.00%	0	0.00%	16	14	1
Cuba	ENERGY	0.00%	0	0.00%	15	14	2
Cuba	ENV	0.00%	0	0.00%	15	14	22
Cuba	ERC	0.00%	0	0.00%	15	14	6

Cuba	EURATOM	0.00%	0	0.00%	15	14	1
Cuba	FET	0.00%	0	0.00%	15	14	3
Cuba	FOOD	13.30%	2	4.70%	15	14	29
Cuba	GENDEREQ	0.00%	0	0.00%	15	14	1
Cuba	GOV	0.00%	0	0.00%	15	14	4
Cuba	HEALTH	13.30%	2	2.60%	15	14	17
Cuba	INEGSOC	0.00%	0	0.00%	15	14	4
Cuba	INFRA	0.00%	0	0.00%	15	14	6
Cuba	INNOSUPSME	0.00%	0	0.00%	15	14	1
Cuba	LEIT-ADVMAT	0.00%	0	0.00%	15	14	3
Cuba	LEIT-BIOTECH	0.00%	0	0.00%	15	14	2
Cuba	LEIT-ICT	0.00%	0	0.00%	15	14	13
Cuba	LEIT-NMP	0.00%	0	0.00%	15	14	1
Cuba	LEIT-SPACE	0.00%	0	0.00%	15	14	2
Cuba	MSCA	73.30%	11	3.10%	15	14	171
Cuba	SECURITY	0.00%	0	0.00%	15	14	1
Cuba	SOCIETY	0.00%	0	0.00%	15	14	7
Cuba	TPT	0.00%	0	0.00%	15	14	1
Dominican Republic	ENERGY	0.00%	0	0.00%	1	1	2
Dominican Republic	ENV	0.00%	0	0.00%	1	1	22
Dominican Republic	ERC	0.00%	0	0.00%	1	1	6
Dominican Republic	EURATOM	0.00%	0	0.00%	1	1	1
Dominican Republic	FET	0.00%	0	0.00%	1	1	3
Dominican Republic	FOOD	0.00%	0	0.00%	1	1	29
Dominican Republic	GENDEREQ	0.00%	0	0.00%	1	1	1
Dominican Republic	GOV	0.00%	0	0.00%	1	1	4
Dominican Republic	HEALTH	0.00%	0	0.00%	1	1	17
Dominican Republic	INEGSOC	0.00%	0	0.00%	1	1	4
Dominican Republic	INFRA	0.00%	0	0.00%	1	1	6
Dominican Republic	INNOSUPSME	0.00%	0	0.00%	1	1	1
Dominican Republic	LEIT-ADVMAT	0.00%	0	0.00%	1	1	3
Dominican Republic	LEIT-BIOTECH	0.00%	0	0.00%	1	1	2
Dominican Republic	LEIT-ICT	0.00%	0	0.00%	1	1	13
Dominican Republic	LEIT-NMP	0.00%	0	0.00%	1	1	1
Dominican Republic	LEIT-SPACE	0.00%	0	0.00%	1	1	2
Dominican Republic	MSCA	100.00%	1	0.30%	1	1	171
Dominican Republic	SECURITY	0.00%	0	0.00%	1	1	1
Dominican Republic	SOCIETY	0.00%	0	0.00%	1	1	7
Dominican Republic	TPT	0.00%	0	0.00%	1	1	1
Ecuador	ENERGY	0.00%	0	0.00%	18	15	2
Ecuador	ENV	27.80%	5	15.60%	18	15	22
Ecuador	ERC	0.00%	0	0.00%	18	15	6
Ecuador	EURATOM	0.00%	0	0.00%	18	15	1
Ecuador	FET	0.00%	0	0.00%	18	15	3
Ecuador	FOOD	0.00%	0	0.00%	18	15	29

Ecuador	GENDEREQ	0.00%	0	0.00%	18	15	1
Ecuador	GOV	0.00%	0	0.00%	18	15	4
Ecuador	HEALTH	16.70%	3	3.80%	18	15	17
Ecuador	INEGSOC	0.00%	0	0.00%	18	15	4
Ecuador	INFRA	5.60%	1	7.70%	18	15	6
Ecuador	INNOSUPSME	0.00%	0	0.00%	18	15	1
Ecuador	LEIT-ADVMAT	0.00%	0	0.00%	18	15	3
Ecuador	LEIT-BIOTECH	0.00%	0	0.00%	18	15	2
Ecuador	LEIT-ICT	0.00%	0	0.00%	18	15	13
Ecuador	LEIT-NMP	0.00%	0	0.00%	18	15	1
Ecuador	LEIT-SPACE	0.00%	0	0.00%	18	15	2
Ecuador	MSCA	38.90%	7	1.90%	18	15	171
Ecuador	SECURITY	0.00%	0	0.00%	18	15	1
Ecuador	SOCIETY	11.10%	2	7.10%	18	15	7
Ecuador	TPT	0.00%	0	0.00%	18	15	1
Grenada	ENERGY	0.00%	0	0.00%	1	1	2
Grenada	ENV	0.00%	0	0.00%	1	1	22
Grenada	ERC	0.00%	0	0.00%	1	1	6
Grenada	EURATOM	0.00%	0	0.00%	1	1	1
Grenada	FET	0.00%	0	0.00%	1	1	3
Grenada	FOOD	0.00%	0	0.00%	1	1	29
Grenada	GENDEREQ	0.00%	0	0.00%	1	1	1
Grenada	GOV	0.00%	0	0.00%	1	1	4
Grenada	HEALTH	0.00%	0	0.00%	1	1	17
Grenada	INEGSOC	0.00%	0	0.00%	1	1	4
Grenada	INFRA	100.00%	1	7.70%	1	1	6
Grenada	INNOSUPSME	0.00%	0	0.00%	1	1	1
Grenada	LEIT-ADVMAT	0.00%	0	0.00%	1	1	3
Grenada	LEIT-BIOTECH	0.00%	0	0.00%	1	1	2
Grenada	LEIT-ICT	0.00%	0	0.00%	1	1	13
Grenada	LEIT-NMP	0.00%	0	0.00%	1	1	1
Grenada	LEIT-SPACE	0.00%	0	0.00%	1	1	2
Grenada	MSCA	0.00%	0	0.00%	1	1	171
Grenada	SECURITY	0.00%	0	0.00%	1	1	1
Grenada	SOCIETY	0.00%	0	0.00%	1	1	7
Grenada	TPT	0.00%	0	0.00%	1	1	1
Guatemala	ENERGY	0.00%	0	0.00%	3	3	2
Guatemala	ENV	0.00%	0	0.00%	3	3	22
Guatemala	ERC	33.30%	1	16.70%	3	3	6
Guatemala	EURATOM	0.00%	0	0.00%	3	3	1
Guatemala	FET	0.00%	0	0.00%	3	3	3
Guatemala	FOOD	0.00%	0	0.00%	3	3	29
Guatemala	GENDEREQ	0.00%	0	0.00%	3	3	1
Guatemala	GOV	0.00%	0	0.00%	3	3	4
Guatemala	HEALTH	0.00%	0	0.00%	3	3	17

Guatemala	INEGSOC	0.00%	0	0.00%	3	3	4
Guatemala	INFRA	0.00%	0	0.00%	3	3	6
Guatemala	INNOSUPSME	0.00%	0	0.00%	3	3	1
Guatemala	LEIT-ADVMAT	0.00%	0	0.00%	3	3	3
Guatemala	LEIT-BIOTECH	0.00%	0	0.00%	3	3	2
Guatemala	LEIT-ICT	33.30%	1	3.20%	3	3	13
Guatemala	LEIT-NMP	0.00%	0	0.00%	3	3	1
Guatemala	LEIT-SPACE	0.00%	0	0.00%	3	3	2
Guatemala	MSCA	0.00%	0	0.00%	3	3	171
Guatemala	SECURITY	0.00%	0	0.00%	3	3	1
Guatemala	SOCIETY	33.30%	1	3.60%	3	3	7
Guatemala	TPT	0.00%	0	0.00%	3	3	1
Jamaica	ENERGY	0.00%	0	0.00%	6	6	2
Jamaica	ENV	0.00%	0	0.00%	6	6	22
Jamaica	ERC	0.00%	0	0.00%	6	6	6
Jamaica	EURATOM	0.00%	0	0.00%	6	6	1
Jamaica	FET	0.00%	0	0.00%	6	6	3
Jamaica	FOOD	16.70%	1	2.30%	6	6	29
Jamaica	GENDEREQ	0.00%	0	0.00%	6	6	1
Jamaica	GOV	16.70%	1	20.00%	6	6	4
Jamaica	HEALTH	16.70%	1	1.30%	6	6	17
Jamaica	INEGSOC	0.00%	0	0.00%	6	6	4
Jamaica	INFRA	0.00%	0	0.00%	6	6	6
Jamaica	INNOSUPSME	0.00%	0	0.00%	6	6	1
Jamaica	LEIT-ADVMAT	0.00%	0	0.00%	6	6	3
Jamaica	LEIT-BIOTECH	0.00%	0	0.00%	6	6	2
Jamaica	LEIT-ICT	0.00%	0	0.00%	6	6	13
Jamaica	LEIT-NMP	0.00%	0	0.00%	6	6	1
Jamaica	LEIT-SPACE	0.00%	0	0.00%	6	6	2
Jamaica	MSCA	16.70%	1	0.30%	6	6	171
Jamaica	SECURITY	0.00%	0	0.00%	6	6	1
Jamaica	SOCIETY	33.30%	2	7.10%	6	6	7
Jamaica	TPT	0.00%	0	0.00%	6	6	1
Mexico	ENERGY	3.10%	2	40.00%	65	45	2
Mexico	ENV	1.50%	1	3.10%	65	45	22
Mexico	ERC	0.00%	0	0.00%	65	45	6
Mexico	EURATOM	1.50%	1	100.00%	65	45	1
Mexico	FET	1.50%	1	12.50%	65	45	3
Mexico	FOOD	6.20%	4	9.30%	65	45	29
Mexico	GENDEREQ	0.00%	0	0.00%	65	45	1
Mexico	GOV	0.00%	0	0.00%	65	45	4
Mexico	HEALTH	10.80%	7	9.00%	65	45	17
Mexico	INEGSOC	0.00%	0	0.00%	65	45	4
Mexico	INFRA	3.10%	2	15.40%	65	45	6
Mexico	INNOSUPSME	0.00%	0	0.00%	65	45	1

Mexico	LEIT-ADVMAT	0.00%	0	0.00%	65	45	3
Mexico	LEIT-BIOTECH	0.00%	0	0.00%	65	45	2
Mexico	LEIT-ICT	26.20%	17	54.80%	65	45	13
Mexico	LEIT-NMP	0.00%	0	0.00%	65	45	1
Mexico	LEIT-SPACE	0.00%	0	0.00%	65	45	2
Mexico	MSCA	44.60%	29	8.10%	65	45	171
Mexico	SECURITY	0.00%	0	0.00%	65	45	1
Mexico	SOCIETY	1.50%	1	3.60%	65	45	7
Mexico	TPT	0.00%	0	0.00%	65	45	1
Nicaragua	ENERGY	0.00%	0	0.00%	2	2	2
Nicaragua	ENV	0.00%	0	0.00%	2	2	22
Nicaragua	ERC	0.00%	0	0.00%	2	2	6
Nicaragua	EURATOM	0.00%	0	0.00%	2	2	1
Nicaragua	FET	0.00%	0	0.00%	2	2	3
Nicaragua	FOOD	50.00%	1	2.30%	2	2	29
Nicaragua	GENDEREQ	0.00%	0	0.00%	2	2	1
Nicaragua	GOV	0.00%	0	0.00%	2	2	4
Nicaragua	HEALTH	50.00%	1	1.30%	2	2	17
Nicaragua	INEGSOC	0.00%	0	0.00%	2	2	4
Nicaragua	INFRA	0.00%	0	0.00%	2	2	6
Nicaragua	INNOSUPSME	0.00%	0	0.00%	2	2	1
Nicaragua	LEIT-ADVMAT	0.00%	0	0.00%	2	2	3
Nicaragua	LEIT-BIOTECH	0.00%	0	0.00%	2	2	2
Nicaragua	LEIT-ICT	0.00%	0	0.00%	2	2	13
Nicaragua	LEIT-NMP	0.00%	0	0.00%	2	2	1
Nicaragua	LEIT-SPACE	0.00%	0	0.00%	2	2	2
Nicaragua	MSCA	0.00%	0	0.00%	2	2	171
Nicaragua	SECURITY	0.00%	0	0.00%	2	2	1
Nicaragua	SOCIETY	0.00%	0	0.00%	2	2	7
Nicaragua	TPT	0.00%	0	0.00%	2	2	1
Panama	ENERGY	0.00%	0	0.00%	1	1	2
Panama	ENV	0.00%	0	0.00%	1	1	22
Panama	ERC	0.00%	0	0.00%	1	1	6
Panama	EURATOM	0.00%	0	0.00%	1	1	1
Panama	FET	0.00%	0	0.00%	1	1	3
Panama	FOOD	0.00%	0	0.00%	1	1	29
Panama	GENDEREQ	0.00%	0	0.00%	1	1	1
Panama	GOV	0.00%	0	0.00%	1	1	4
Panama	HEALTH	100.00%	1	1.30%	1	1	17
Panama	INEGSOC	0.00%	0	0.00%	1	1	4
Panama	INFRA	0.00%	0	0.00%	1	1	6
Panama	INNOSUPSME	0.00%	0	0.00%	1	1	1
Panama	LEIT-ADVMAT	0.00%	0	0.00%	1	1	3
Panama	LEIT-BIOTECH	0.00%	0	0.00%	1	1	2
Panama	LEIT-ICT	0.00%	0	0.00%	1	1	13

Panama	LEIT-NMP	0.00%	0	0.00%	1	1	1
Panama	LEIT-SPACE	0.00%	0	0.00%	1	1	2
Panama	MSCA	0.00%	0	0.00%	1	1	171
Panama	SECURITY	0.00%	0	0.00%	1	1	1
Panama	SOCIETY	0.00%	0	0.00%	1	1	7
Panama	TPT	0.00%	0	0.00%	1	1	1
Paraguay	ENERGY	0.00%	0	0.00%	5	4	2
Paraguay	ENV	0.00%	0	0.00%	5	4	22
Paraguay	ERC	0.00%	0	0.00%	5	4	6
Paraguay	EURATOM	0.00%	0	0.00%	5	4	1
Paraguay	FET	20.00%	1	12.50%	5	4	3
Paraguay	FOOD	0.00%	0	0.00%	5	4	29
Paraguay	GENDEREQ	0.00%	0	0.00%	5	4	1
Paraguay	GOV	0.00%	0	0.00%	5	4	4
Paraguay	HEALTH	20.00%	1	1.30%	5	4	17
Paraguay	INEGSOC	0.00%	0	0.00%	5	4	4
Paraguay	INFRA	0.00%	0	0.00%	5	4	6
Paraguay	INNOSUPSME	0.00%	0	0.00%	5	4	1
Paraguay	LEIT-ADVMAT	0.00%	0	0.00%	5	4	3
Paraguay	LEIT-BIOTECH	0.00%	0	0.00%	5	4	2
Paraguay	LEIT-ICT	0.00%	0	0.00%	5	4	13
Paraguay	LEIT-NMP	0.00%	0	0.00%	5	4	1
Paraguay	LEIT-SPACE	0.00%	0	0.00%	5	4	2
Paraguay	MSCA	60.00%	3	0.80%	5	4	171
Paraguay	SECURITY	0.00%	0	0.00%	5	4	1
Paraguay	SOCIETY	0.00%	0	0.00%	5	4	7
Paraguay	TPT	0.00%	0	0.00%	5	4	1
Peru	ENERGY	0.00%	0	0.00%	23	21	2
Peru	ENV	4.30%	1	3.10%	23	21	22
Peru	ERC	0.00%	0	0.00%	23	21	6
Peru	EURATOM	0.00%	0	0.00%	23	21	1
Peru	FET	0.00%	0	0.00%	23	21	3
Peru	FOOD	13.00%	3	7.00%	23	21	29
Peru	GENDEREQ	0.00%	0	0.00%	23	21	1
Peru	GOV	0.00%	0	0.00%	23	21	4
Peru	HEALTH	17.40%	4	5.10%	23	21	17
Peru	INEGSOC	0.00%	0	0.00%	23	21	4
Peru	INFRA	0.00%	0	0.00%	23	21	6
Peru	INNOSUPSME	0.00%	0	0.00%	23	21	1
Peru	LEIT-ADVMAT	0.00%	0	0.00%	23	21	3
Peru	LEIT-BIOTECH	0.00%	0	0.00%	23	21	2
Peru	LEIT-ICT	0.00%	0	0.00%	23	21	13
Peru	LEIT-NMP	0.00%	0	0.00%	23	21	1
Peru	LEIT-SPACE	0.00%	0	0.00%	23	21	2
Peru	MSCA	56.50%	13	3.60%	23	21	171

Peru	SECURITY	0.00%	0	0.00%	23	21	1
Peru	SOCIETY	8.70%	2	7.10%	23	21	7
Peru	TPT	0.00%	0	0.00%	23	21	1
Uruguay	ENERGY	5.00%	1	20.00%	20	19	2
Uruguay	ENV	5.00%	1	3.10%	20	19	22
Uruguay	ERC	0.00%	0	0.00%	20	19	6
Uruguay	EURATOM	0.00%	0	0.00%	20	19	1
Uruguay	FET	0.00%	0	0.00%	20	19	3
Uruguay	FOOD	10.00%	2	4.70%	20	19	29
Uruguay	GENDEREQ	0.00%	0	0.00%	20	19	1
Uruguay	GOV	0.00%	0	0.00%	20	19	4
Uruguay	HEALTH	15.00%	3	3.80%	20	19	17
Uruguay	INEGSOC	0.00%	0	0.00%	20	19	4
Uruguay	INFRA	20.00%	4	30.80%	20	19	6
Uruguay	INNOSUPSME	0.00%	0	0.00%	20	19	1
Uruguay	LEIT-ADVMAT	0.00%	0	0.00%	20	19	3
Uruguay	LEIT-BIOTECH	0.00%	0	0.00%	20	19	2
Uruguay	LEIT-ICT	5.00%	1	3.20%	20	19	13
Uruguay	LEIT-NMP	0.00%	0	0.00%	20	19	1
Uruguay	LEIT-SPACE	0.00%	0	0.00%	20	19	2
Uruguay	MSCA	40.00%	8	2.20%	20	19	171
Uruguay	SECURITY	0.00%	0	0.00%	20	19	1
Uruguay	SOCIETY	0.00%	0	0.00%	20	19	7
Uruguay	TPT	0.00%	0	0.00%	20	19	1
Venezuela	ENERGY	0.00%	0	0.00%	6	5	2
Venezuela	ENV	0.00%	0	0.00%	6	5	22
Venezuela	ERC	0.00%	0	0.00%	6	5	6
Venezuela	EURATOM	0.00%	0	0.00%	6	5	1
Venezuela	FET	0.00%	0	0.00%	6	5	3
Venezuela	FOOD	0.00%	0	0.00%	6	5	29
Venezuela	GENDEREQ	0.00%	0	0.00%	6	5	1
Venezuela	GOV	0.00%	0	0.00%	6	5	4
Venezuela	HEALTH	0.00%	0	0.00%	6	5	17
Venezuela	INEGSOC	0.00%	0	0.00%	6	5	4
Venezuela	INFRA	0.00%	0	0.00%	6	5	6
Venezuela	INNOSUPSME	0.00%	0	0.00%	6	5	1
Venezuela	LEIT-ADVMAT	0.00%	0	0.00%	6	5	3
Venezuela	LEIT-BIOTECH	0.00%	0	0.00%	6	5	2
Venezuela	LEIT-ICT	0.00%	0	0.00%	6	5	13
Venezuela	LEIT-NMP	0.00%	0	0.00%	6	5	1
Venezuela	LEIT-SPACE	0.00%	0	0.00%	6	5	2
Venezuela	MSCA	100.00%	6	1.70%	6	5	171
Venezuela	SECURITY	0.00%	0	0.00%	6	5	1
Venezuela	SOCIETY	0.00%	0	0.00%	6	5	7
Venezuela	TPT	0.00%	0	0.00%	6	5	1

ANNEX III

Country	Topic	Specific activity in total country's participation (in %)	Participation by country by specific activity (n)	Country's participation in specific activity (in %)	Total participation	Projects by country	Projects by specific activity
Argentina	Specific activity 1	29.30%	22	15.30%	75	28	20
Argentina	Specific activity 2	36.00%	27	11.00%	75	28	23
Argentina	Specific activity 3	0.00%	0	0.00%	75	28	1
Argentina	Specific activity 4	34.70%	26	16.30%	75	28	19
Argentina	Specific activity 5	0.00%	0	0.00%	75	28	1
Bolivia	Specific activity 1	21.40%	3	2.10%	14	6	20
Bolivia	Specific activity 2	28.60%	4	1.60%	14	6	23
Bolivia	Specific activity 3	0.00%	0	0.00%	14	6	1
Bolivia	Specific activity 4	50.00%	7	4.40%	14	6	19
Bolivia	Specific activity 5	0.00%	0	0.00%	14	6	1
Brazil	Specific activity 1	18.30%	13	9.00%	71	25	20
Brazil	Specific activity 2	40.80%	29	11.80%	71	25	23
Brazil	Specific activity 3	0.00%	0	0.00%	71	25	1
Brazil	Specific activity 4	40.80%	29	18.10%	71	25	19
Brazil	Specific activity 5	0.00%	0	0.00%	71	25	1
Chile	Specific activity 1	11.50%	6	4.20%	52	22	20
Chile	Specific activity 2	59.60%	31	12.60%	52	22	23
Chile	Specific activity 3	0.00%	0	0.00%	52	22	1
Chile	Specific activity 4	28.80%	15	9.40%	52	22	19
Chile	Specific activity 5	0.00%	0	0.00%	52	22	1
Colombia	Specific activity 1	24.30%	17	11.80%	70	26	20
Colombia	Specific activity 2	51.40%	36	14.60%	70	26	23

Colombia	Specific activity 3	0.00%	0	0.00%	70	26	1
Colombia	Specific activity 4	24.30%	17	10.60%	70	26	19
Colombia	Specific activity 5	0.00%	0	0.00%	70	26	1
Costa Rica	Specific activity 1	31.00%	9	6.30%	29	11	20
Costa Rica	Specific activity 2	31.00%	9	3.70%	29	11	23
Costa Rica	Specific activity 3	0.00%	0	0.00%	29	11	1
Costa Rica	Specific activity 4	13.80%	4	2.50%	29	11	19
Costa Rica	Specific activity 5	24.10%	7	25.90%	29	11	1
Cuba	Specific activity 1	36.00%	9	6.30%	25	7	20
Cuba	Specific activity 2	64.00%	16	6.50%	25	7	23
Cuba	Specific activity 3	0.00%	0	0.00%	25	7	1
Cuba	Specific activity 4	0.00%	0	0.00%	25	7	19
Cuba	Specific activity 5	0.00%	0	0.00%	25	7	1
Dominican Republic	Specific activity 1	100.00%	2	1.40%	2	1	20
Dominican Republic	Specific activity 2	0.00%	0	0.00%	2	1	23
Dominican Republic	Specific activity 3	0.00%	0	0.00%	2	1	1
Dominican Republic	Specific activity 4	0.00%	0	0.00%	2	1	19
Dominican Republic	Specific activity 5	0.00%	0	0.00%	2	1	1
Ecuador	Specific activity 1	36.80%	7	4.90%	19	9	20
Ecuador	Specific activity 2	52.60%	10	4.10%	19	9	23
Ecuador	Specific activity 3	0.00%	0	0.00%	19	9	1
Ecuador	Specific activity 4	10.50%	2	1.30%	19	9	19
Ecuador	Specific activity 5	0.00%	0	0.00%	19	9	1
El Salvador	Specific activity 1	44.40%	8	5.60%	18	8	20
El Salvador	Specific activity 2	22.20%	4	1.60%	18	8	23
El Salvador	Specific activity 3	0.00%	0	0.00%	18	8	1
El Salvador	Specific activity 4	16.70%	3	1.90%	18	8	19
El Salvador	Specific activity 5	16.70%	3	11.10%	18	8	1
Guatemala	Specific activity 1	45.00%	9	6.30%	20	9	20

Guatemala	Specific activity 2	25.00%	5	2.00%	20	9	23
Guatemala	Specific activity 3	0.00%	0	0.00%	20	9	1
Guatemala	Specific activity 4	15.00%	3	1.90%	20	9	19
Guatemala	Specific activity 5	15.00%	3	11.10%	20	9	1
Guyana	Specific activity 1	100.00%	2	1.40%	2	1	20
Guyana	Specific activity 2	0.00%	0	0.00%	2	1	23
Guyana	Specific activity 3	0.00%	0	0.00%	2	1	1
Guyana	Specific activity 4	0.00%	0	0.00%	2	1	19
Guyana	Specific activity 5	0.00%	0	0.00%	2	1	1
Haiti	Specific activity 1	0.00%	0	0.00%	5	1	20
Haiti	Specific activity 2	100.00%	5	2.00%	5	1	23
Haiti	Specific activity 3	0.00%	0	0.00%	5	1	1
Haiti	Specific activity 4	0.00%	0	0.00%	5	1	19
Haiti	Specific activity 5	0.00%	0	0.00%	5	1	1
Honduras	Specific activity 1	28.60%	4	2.80%	14	6	20
Honduras	Specific activity 2	28.60%	4	1.60%	14	6	23
Honduras	Specific activity 3	0.00%	0	0.00%	14	6	1
Honduras	Specific activity 4	14.30%	2	1.30%	14	6	19
Honduras	Specific activity 5	28.60%	4	14.80%	14	6	1
Jamaica	Specific activity 1	100.00%	3	2.10%	3	2	20
Jamaica	Specific activity 2	0.00%	0	0.00%	3	2	23
Jamaica	Specific activity 3	0.00%	0	0.00%	3	2	1
Jamaica	Specific activity 4	0.00%	0	0.00%	3	2	19
Jamaica	Specific activity 5	0.00%	0	0.00%	3	2	1
Mexico	Specific activity 1	32.40%	11	7.60%	34	15	20
Mexico	Specific activity 2	35.30%	12	4.90%	34	15	23
Mexico	Specific activity 3	11.80%	4	40.00%	34	15	1
Mexico	Specific activity 4	20.60%	7	4.40%	34	15	19
Mexico	Specific activity 5	0.00%	0	0.00%	34	15	1

Nicaragua	Specific activity 1	19.00%	4	2.80%	21	8	20
Nicaragua	Specific activity 2	28.60%	6	2.40%	21	8	23
Nicaragua	Specific activity 3	0.00%	0	0.00%	21	8	1
Nicaragua	Specific activity 4	28.60%	6	3.80%	21	8	19
Nicaragua	Specific activity 5	23.80%	5	18.50%	21	8	1
Panama	Specific activity 1	14.30%	4	2.80%	28	12	20
Panama	Specific activity 2	35.70%	10	4.10%	28	12	23
Panama	Specific activity 3	10.70%	3	30.00%	28	12	1
Panama	Specific activity 4	21.40%	6	3.80%	28	12	19
Panama	Specific activity 5	17.90%	5	18.50%	28	12	1
Paraguay	Specific activity 1	16.70%	4	2.80%	24	9	20
Paraguay	Specific activity 2	50.00%	12	4.90%	24	9	23
Paraguay	Specific activity 3	0.00%	0	0.00%	24	9	1
Paraguay	Specific activity 4	33.30%	8	5.00%	24	9	19
Paraguay	Specific activity 5	0.00%	0	0.00%	24	9	1
Peru	Specific activity 1	0.00%	0	0.00%	33	11	20
Peru	Specific activity 2	39.40%	13	5.30%	33	11	23
Peru	Specific activity 3	0.00%	0	0.00%	33	11	1
Peru	Specific activity 4	60.60%	20	12.50%	33	11	19
Peru	Specific activity 5	0.00%	0	0.00%	33	11	1
Suriname	Specific activity 1	100.00%	2	1.40%	2	1	20
Suriname	Specific activity 2	0.00%	0	0.00%	2	1	23
Suriname	Specific activity 3	0.00%	0	0.00%	2	1	1
Suriname	Specific activity 4	0.00%	0	0.00%	2	1	19
Suriname	Specific activity 5	0.00%	0	0.00%	2	1	1
Trinidad and Tobago	Specific activity 1	100.00%	2	1.40%	2	1	20
Trinidad and Tobago	Specific activity 2	0.00%	0	0.00%	2	1	23
Trinidad and Tobago	Specific activity 3	0.00%	0	0.00%	2	1	1
Trinidad and Tobago	Specific activity 4	0.00%	0	0.00%	2	1	19

Trinidad and Tobago	Specific activity 5	0.00%	0	0.00%	2	1	1
Uruguay	Specific activity 1	15.00%	3	2.10%	20	10	20
Uruguay	Specific activity 2	45.00%	9	3.70%	20	10	23
Uruguay	Specific activity 3	15.00%	3	30.00%	20	10	1
Uruguay	Specific activity 4	25.00%	5	3.10%	20	10	19
Uruguay	Specific activity 5	0.00%	0	0.00%	20	10	1
Venezuela	Specific activity 1	0.00%	0	0.00%	4	2	20
Venezuela	Specific activity 2	100.00%	4	1.60%	4	2	23
Venezuela	Specific activity 3	0.00%	0	0.00%	4	2	1
Venezuela	Specific activity 4	0.00%	0	0.00%	4	2	19
Venezuela	Specific activity 5	0.00%	0	0.00%	4	2	1

ANNEX IV

Cooperation of academic networks and mobility schemes – An explorative Survey

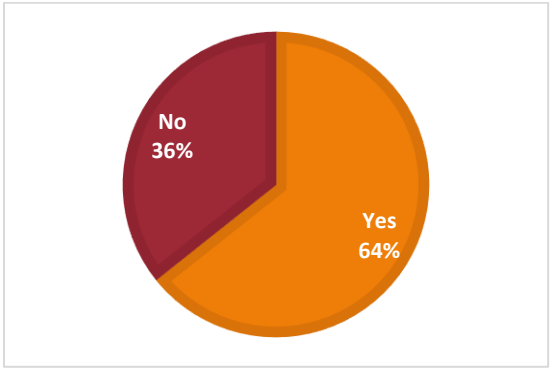
An online survey was designed on the basis of the results of the mapping exercise. To be more precise two different surveys were set up to cover the specific nature of the mapped cases. The first survey was targeted at bi-regional and regional academic networks and the second survey targeted the mapped projects from EU supported programmes (ALFA, Erasmus Mundus and Erasmus+). Although there were some differences in the survey, the guiding questions remained the same:

- What is the thematic scope of these networks and mobility schemes?
- What are actions implemented by these networks and mobility schemes?
- How is the network/mobility scheme organized (participants, hierarchies, target groups etc.)?
- Which are the most important thematic areas of (bi-)regional networks?
- In which areas does (bi-)regional cooperation work well?
- What needs to be done to improve (bi-)regional cooperation?

The survey was sent out to 103 networks[43] and 47 responses were received, 25 of them complete, which makes for a return rate of almost 50% (respectively 25%). Of the total responses 19 came from academic networks and mobility schemes, while 28 came from EU funded Erasmus mundus, Erasmus+ or Alfa projects. The following results focus mainly on the information gathered through the responses from academic networks and mobility schemes, but also take into account the responses of the EU funded projects.

The first question of the survey was aimed at finding out if bi-regional cooperation of some kind was already in place in the academic network. Figure 80 shows that the majority of surveyed networks, 9 in absolute numbers, is already collaborating in some way with partners from the other region.

Figure 80: Are institutions from both regions participating in your network/scheme? In%.

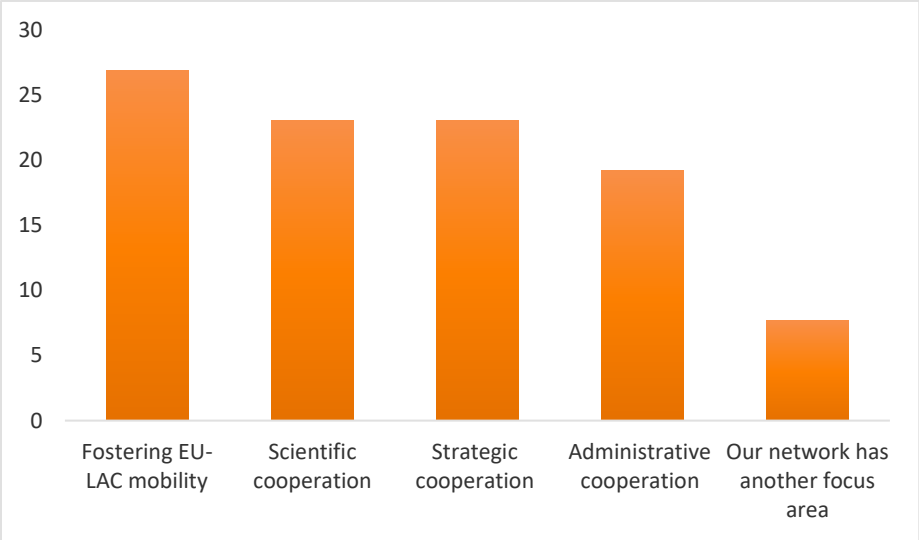


Source: own elaboration, n=14.

[43] The difference to the absolute number of mapped cases is due to unavailable contact details.

In terms of thematic focus areas of these networks, seven out of 14 responded, that EU-LAC mobility was a priority area of their network. Thus, as Figure 81 shows, mobility is the highest priority area, followed by scientific and strategic cooperation (multiple selections possible). Out of the 14 academic networks that answered the survey, almost 50% (networks) stated that the actions they are undertaking are funded by the participating institutions themselves. While another four answered that they receive support from other public sources, only 2 networks stated that they are financed, at least to a relevant amount, by private sources. This shows that private funding is a potential source that can help to up-scale bi-regional cooperation and mobility. However, the role of public funding remains crucial, as only through public funds it can be assured that thematic priorities are aligned with the priorities set out in the bi-regional dialogue on scientific cooperation or the priorities jointly determined in the Common Research Area.

Figure 81: Focus area of academic networks and mobility schemes, in %.



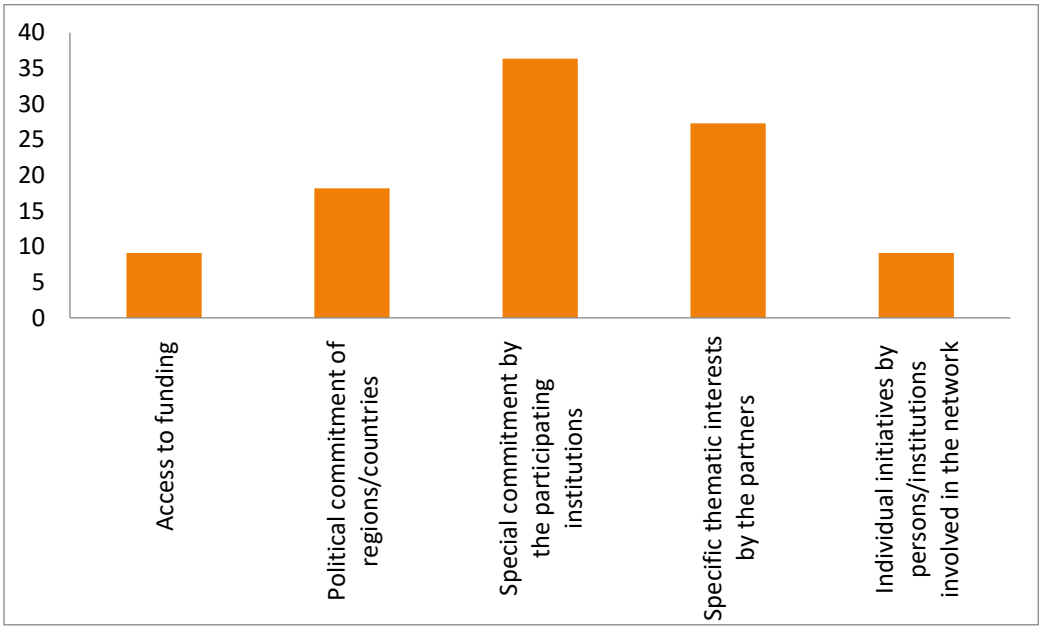
Source: own elaboration, n=14.

Looking closer at mobility as a priority area, it seems that postgraduate and researcher mobility are the most important fields for the academic networks followed by administrative staff mobility. The concentration on these three areas points to the fact that in bi-regional cooperation, exchange between more advanced researchers, respectively exchange regarding administrative issues is regarded as more rewarding than undergraduate mobility. In terms of main challenges, responses indicate that they are to be found in a lack of financial resources, as five out of eleven academics networks named this as the core challenge. Another important challenge is the insufficient support by (supra)national institutions, that was selected by three academic networks. Arguably, this can be understood as an indication that national and supranational organisation like the EU and, with limitations, CELAC need to provide a framework which can be used by the academic networks. While the CRA sets out ambitious goals for bi-regional cooperation, the fact that the absence of sufficient support measures is still regarded as an issue shows that more work still has to be done here.

This observation is also affirmed by the responses to the question that asked for the main drivers in the networks that keep the bi-regional cooperation for mobility ongoing (see Figure 82). More than a third of the networks responded that the main driver that keeps mobility between the participating institutions ongoing is the special commitment of the participating institutions, whereas the political commitment of

national or regional institutions is only regarded as main driving factor by less than 20% of the networks. Both results stress the fact that the potential for supporting bi-regional mobility trough regional measures is not fully exploited. The cooperation efforts between the two regions should be even more coherent and jointly approved to contribute to fruitful environment.

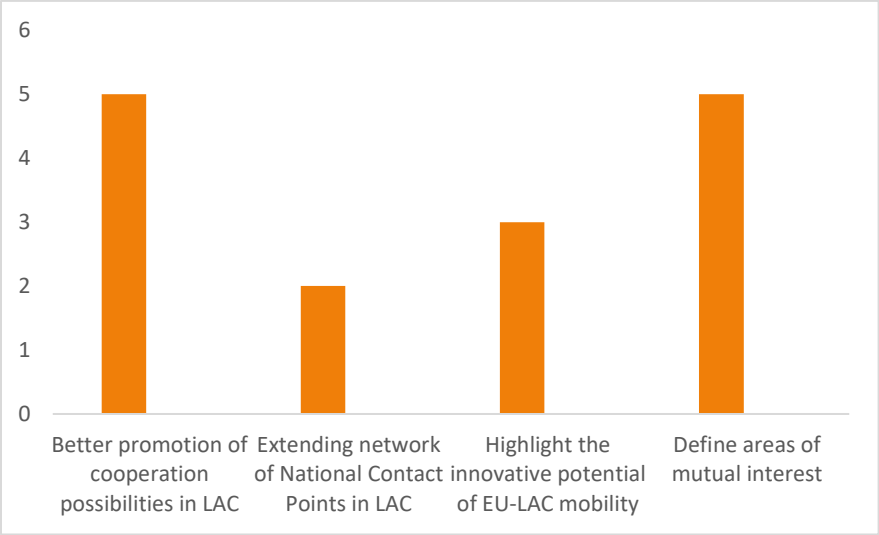
Figure 82: Main drivers for EU-LAC mobility, in %.



Source: own elaboration, n=10.

Results of the survey which was sent out to EU funded bi-regional projects dealing with mobility further confirm these conclusions. Figure 83 illustrates that defining areas of mutual interest and better promoting EU-LAC cooperation possibilities in LAC countries are the most important measures that could be taken to foster EU-LAC mobility. For both activities a sound framework supported by national and supranational institutions can be a valuable factor in supporting bi-regional cooperation efforts. Therefore, also for the projects that are already operating under the framework of a supranational funding programme, there are still certain areas where more coherent support is required.

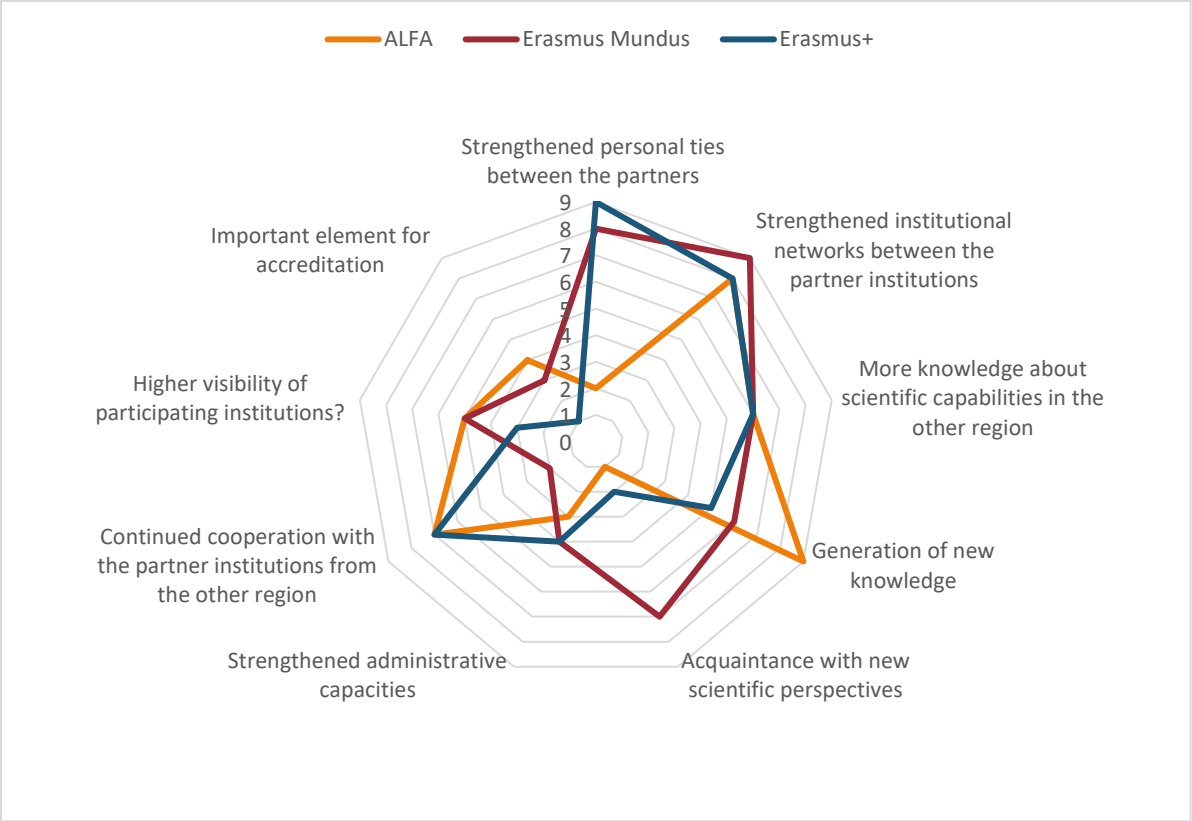
Figure 83: Measures that should be taken to foster EU-LAC mobility according to EU funded projects.



Source: own elaboration, n=16.

In case of the EU funded projects that were consulted, it is also useful to look at their assessment of the main results that they achieved during and after their project. The question is if the temporary academic network, which was formed in the framework of the project, lead to continued cooperation in future calls or eventually resulted in more institutionalised forms of cooperation. Figure 84 gives an overview of the most important results selected by the projects that participated in the survey. Looking at the three different funding programmes that were represented in the mapping, the result that receives the most approval is “strengthened institutional networks between the partner institutions of the network”. Furthermore, continued cooperation of the partners that worked together in a project is regarded as an essential outcome of these projects. Arguably, this indicates that cooperation in an EU-LAC setting, although funded only for a certain period of time, results in strengthened bi-regional cooperation. In addition, the result “strengthened personal ties between the partners” point in the same direction, especially in the mobility actions of Erasmus Mundus and Erasmus+, were personal acquaintance is a big factor in researcher and student mobility.

Figure 84: Most important results of EU funded EU-LAC cooperation projects.



Source: own elaboration, n=16.

All in all, a need for supranational and national support structures for bi-regional mobility is observable. To pin down more concrete measures departing from experiences of the networks and projects actually working on the topics, a sample of networks and projects was selected which were invited to share experience in an interview. The interview was specifically targeted at exploring good practices and further potentials for/ bi-regional cooperation and mobility as well as needs and requirements to explore for new areas of bi-regional cooperation.