

ERANet-LAC 3rd Multi-Thematic Joint Call 2017/2018 involving Research Infrastructures

An initiative supported by the EU-CELAC Interest Group towards the CRA

CALL TEXT

Proposal Submission Deadline:
Thursday 8th March 2018 (deadline 15.00 hrs CET)

Websites:

<http://www.eranet-lac.eu> and <https://www.eucelac-platform.eu/joint-actions>
(for Call Text and National / Regional Funding Regulations and Guidelines for Applicants)

Link to the CYTED Webtool: <http://calleranet-lac.cyted.org>

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Applicants must check the national /regional regulations of their funding organizations before they submit their proposal (see <https://www.eucelac-platform.eu/joint-actions> and <http://www.eranet-lac.eu>).

In case of questions, each participating funding organization has a call contact point for personal consultancies. See Annex 3, page 26.

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1. Role of EU-CELAC Interest Group: Background for the present EU-CELAC Joint Call

The ERANet-LAC project (10/2013-12/2017) was funded by the European Commission within the 7th Framework Programme for Research and Technology Development (FP7) to strengthen the bi-regional partnership in Science, Technology and Innovation by planning and implementing concrete joint activities and by establishing an innovative and sustainable framework for future bi-regional joint activities.

In the frame of ERANet-LAC, the EU-CELAC Interest Group was constituted, which is a group of 30 funding agencies from CELAC, EU Member States and Associated Countries wishing to cooperate in bi-regional science, technology and innovation (STI) collaboration.

The members of the EU-CELAC IG are launching the present Joint Call in cooperation with ERANet-LAC. Interested project consortia composed of partners from the countries listed below are invited to submit project proposals.

1.1 About the present EU-CELAC Joint Call

The aim of the Joint Call is to initiate sustainable and multilateral research cooperation between researchers from Europe, Latin-America and the Caribbean countries.

Within the framework of the present EU-CELAC Joint Call, transnational research and innovation projects will be funded for a period of up to 36 months.

The goal of the present Joint Call is to create long-term collaboration between EU Member States and/or Associated Countries, Latin-American and Caribbean countries by submitting transnational calls in research and innovation.

2. Design of the present EU-CELAC Joint Call

The design of the present Joint Call is of a flexible nature to ensure that a wide variety of funding institutions is able to join the Joint Call – and that as many researchers as possible from European, Latin-American and Caribbean countries are eligible for funding. For this reason, each participating funding institution will apply its individual national/ regional funding regulations.

Applicants should therefore, before the submission of a proposal, check the national /regional regulations of their funding organizations (see <https://www.eucelac-platform.eu/joint-actions> and http://eranet-lac.eu/Joint_Calls.php). Furthermore, they are strongly recommended to contact the National/Regional Call Contact Person (see Annex 3, page 26) for guidance.

2.2 Participating countries/regions and Call Topics

In total, 23 national/regional funding organizations from 21 countries – 15 from CELAC and 8 from Europe - have agreed to participate in the present EU-CELAC Joint Call for funding research and innovation projects:

1. Argentina: Ministerio de Ciencia, Tecnología e Innovación Productiva, MINCYT
2. Barbados: Caribbean Science Foundation, CSF
3. Belgium: Fonds de la Recherche Scientifique, F.R.S.-FNRS
4. Bolivia: Ministerio de Educación - Vice Ministerio de Ciencia y Tecnología, MINEDU ¹
5. Brazil: Conselho Nacional de Desenvolvimento Científico e Tecnológico, CNPq
6. Brazil: Fundação de Amparo à Pesquisa do Estado de São Paulo, FAPESP
7. Chile: Comisión Nacional de Investigación Científica y Tecnológica, CONICYT
8. Costa Rica: Ministerio de Ciencias, Tecnología y Telecomunicaciones, MICITT CONICIT
9. Cuba: Fondo de Financiamiento a la Ciencia y la Innovación, FONCI
10. Dominican Republic: Ministerio de Educación Superior, Ciencia y Tecnología, MESCYT
11. Ecuador : Secretaría de Educación Superior, Ciencia, Tecnología e Innovación, SENESCYT
12. Finland : Academy of Finland, AKA, Research Council for Culture and Society
13. Germany: Bundesministerium für Bildung und Forschung, BMBF
14. Guatemala: Consejo Nacional de Ciencia y Tecnología, CONCYT
15. Israel: Ministry of Health, CSO-MOH
16. Mexico: Consejo Nacional de Ciencia y Tecnología, CONACYT
Secretaría de Energía, SENER
17. Panama: Secretaria Nacional de Ciência, Tecnologia e Innovación, SENACYT
18. Peru: Consejo Nacional de Ciencia Tecnología e Innovación Tecnológica, CONCYTEC
19. Poland: Narodowe Centrum Badań i Rozwoju, NCBR
20. Spain: Agencia Estatal de Investigación- Ministerio de Economía, Industria y Competitividad, AEI-MINECO
21. Spain: Instituto de Salud Carlos III, ISCIII
22. Turkey: Türkiye Bilimsel ve Teknolojik Arastirma Kurumu, TUBITAK
23. Uruguay: Agencia Nacional de Investigación e Innovación, ANII

Researchers from **countries that are not listed above** are free to participate in all topics as self-financed/associated partners (see below 2.3, page 6 for further information on self-financed/associated partners).

Proposals must be submitted by transnational consortia. Only researchers based in the countries /regions listed below under each of the mentioned topics are eligible for funding through the EU-

¹ The available budget for project funding will be defined by each Bolivian institution participating in one of the mentioned topics. In Bolivia, universities and research centers dispose of their own financial resources and are free to fund the international projects they consider relevant and according to their individual institutional funding regulations.

CELAC Joint Call. Researchers from other countries / regions may also participate under special conditions (see page 6, section 2.3).

The following list shows the list of topics and the countries that are funding each of the topics mentioned (see **Annex 1, page 17** for full details on the topics):

BIODIVERSITY:

Observatories' Network on Biodiversity and Climate Change: Coordinating Data Acquisition and Fostering Data Access and Transfer.

Participating Funding Agencies: Bolivia (MINEDU), Brazil (FAPESP), Costa Rica (MICIT), Cuba (FONCI), Dominican Republic (MESCYT), Ecuador (SENESCYT), Germany (BMBF), Guatemala (CONCYT), Panama (SENACYT), Peru (CONCYTEC), Poland (NCBR), Spain (MINECO).

BIOECONOMY / BIOREFINERIES

Intermediate and/or High-Added Value Bioproducts

Participating Funding Agencies: Bolivia (MINEDU), Brazil (CNPq), Brazil (FAPESP), Cuba (FONCI), Dominican Republic (MESCYT), Ecuador (SENESCYT), Germany (BMBF), Guatemala (CONCYT), Panama (SENACYT), Peru (CONCYTEC), Poland (NCBR), Turkey (TUBITAK), Uruguay (ANII).

HEALTH

Infectious Diseases: Early Detection Research including both, Sreening and Diagnosis

Participating Funding Agencies: Belgium (F.R.S. – FNRS), Bolivia (MINEDU), Brazil (CNPq), Brazil (FAPESP), Chile (CONICYT), Cuba (FONCI), Dominican Republic (MESCYT), Ecuador (SENESCYT), Germany (BMBF), Guatemala (CONCYT), Israel (CSO-MOH), Panama (SENACYT), Peru (CONCYTEC), Spain (ISCIII), Turkey (TUBITAK), Uruguay (ANII).

ICT

ICT Platform for Learning and Inclusion

Participating Funding Agencies: Barbados (CSF), Bolivia (MINEDU), Brazil (FAPESP), Chile (CONICYT), Cuba (FONCI), Dominican Republic (MESCYT), Ecuador (SENESCYT), Finland (AKA), Guatemala (CONCYT), Panama (SENACYT), Poland (NCBR), Turkey (TUBITAK), Uruguay (ANII).

ICT for urban sustainability: Nature-Based Solutions, Citizen Science and Systemic Urban Planning

Participating Funding Agencies: Argentina (MINCyT), Belgium (F.R.S. – FNRS), Bolivia (MINEDU), Brazil (CNPq), Brazil (FAPESP), Chile (CONICYT), Cuba (FONCI), Dominican Republic (MESCYT), Ecuador (SENESCYT), Germany (BMBF), Guatemala (CONCYT), Panama (SENACYT), Poland (NCBR), Peru (CONCYTEC), Turkey (TUBITAK), Uruguay (ANII).

ENERGY

Ocean energy: Development of Technologies for the Energy Valorization of Marine Resources within existing Large Research Infrastructures

Participating Funding Agencies: Argentina (MINCyT), Brazil (FAPESP), Costa Rica (MICIT), Cuba (FONCI), Dominican Republic (MESCYT), Ecuador (SENESCYT), Germany (BMBF), Guatemala (CONCYT), Mexico (CONACYT), Panama (SENACYT), Peru (CONCYTEC), Spain (MINECO), Uruguay (ANII).

Please note: Participating Large Research Infrastructures are described in Annex 5, page 28.

2.3 Composition of consortia

Applicants must be eligible for funding according to the regulations of their respective national Funding Organizations. They can represent public and private scientific, research, technological and innovation institutions on national, federal or EU-LAC regional level, research active industry and

NGOs and other institutions involved in research activities, as long as they are eligible for funding according to the respective national and/or institutional regulations.

Only transnational projects will be funded. Each collaborative consortium should have the optimal critical mass to achieve ambitious scientific/innovation goals and should clearly show an added value from working together.

The following criteria must be taken into account: Each consortium submitting a proposal must involve a **minimum of four eligible partners from four different countries with at least two countries from each region** (see the list of funding organizations in section 2.2, page 4 and call contact persons in **Annex 3, page 26**). A maximum number of national partners applying for funding will be defined in the institutional rules of each funding organization.

Partners not eligible for funding may also be part of the consortia if they are able to clearly demonstrate an added value to the consortium and secure their own funding. However, the coordinator and the majority of partners in a consortium must be eligible for the funding organizations participating in this Call. The self-financed/associated partners must provide the Call Secretariat with a **signed official** letter of support from their Head of Department or Financial Director. A pdf-version of this letter must be included as an annex at the end of the proposal before submitting. Self-financed partners cannot assume the role of coordinator of the consortium.

There should be a principal investigator (PI) for each of the national research groups. Each PI will act as contact person for his or her national funders. One of these PIs should be selected through the project consortium as coordinator to represent the consortium, submit the proposal, and establish any further communication with the Call Secretariat.

A coordinator must not submit more than one proposal. However, one research institution – as a legal entity – is allowed to participate as a coordinator or partner in several project proposals.

NOTE: How to find partners

The call secretariat supports the identification of partner institutions in Latin America/Caribbean and Europe. Under the following link http://eranet-lac.eu/Joint_Calls.php a partner search tool is published to help bringing together interested applicants from countries in both regions.

All requests will be published in the search tool and made available to all interested institutions immediately.

2.3.1 Consortium Agreement

Each consortium selected for funding must provide a Consortium Agreement (CA), signed by all participants, to clarify the potential Intellectual Property Rights (IPR) matters (such as licensing in, licensing out, patent and exploitation strategy). The research consortium is strongly encouraged to sign this CA before the official project start. In any case it is requested to send the consortium agreement to the Call Secretariat by January 2018 at the latest.

Upon request, this consortium agreement must be made available to the concerned funding organisations. Please check with the call contact points of the participating countries whether the signature of the CA is mandatory before the project starts.

The consortium agreement must be sent to the call secretariat before 31st January 2019. It must address (as a minimum), the following points:

- Common start date and duration of the research and / or innovation project
- Organization and management of the project
- Role and responsibilities of each partner resources and funding

- Confidentiality and publishing
- Intellectual Property Rights
- Decision making within the consortium
- Handling of internal disputes
- The liabilities of the research partners towards one another (including the handling of default of contract)

Any issues regarding funding are a bilateral matter between each project partner and the relevant funding organization and should be excluded from the CA. The CA, together with any other information required by national regulations, must be made available upon request to the national funding agencies.

Standard documents that can be used as templates and modified according to the specific needs of the consortium can be found at: <http://www.desca-2020.eu/> . Further instructions will be provided by the Call Secretariat to the coordinators of the projects selected for funding

2.4 Allowable costs and duration of funding

Since funding will be administered according to the terms and conditions of the responsible funding organizations, the concrete costs that can be financed through the project may vary for individual partners in a given project consortium. It is therefore important to check the national rules of the Funding Parties and to contact the respective national Call Contact Person. Both can be found in **Annex 3, page 26**.

The duration of a project can be up to **36 months** (check national regulations). Approved projects should start between October 2018 and January 2019.

2.5 Call budget and funding principle

The present EU-CELAC Joint Call follows the ***juste retour* principle**. It means that the national and regional financial contributions to a virtual common pot will be assigned to project partners of the respective country and region only, in accordance with national and regional regulations.

The overall budget of the ERANet-LAC Joint Call is the sum of the individual budgets allocated by each participating funding institution. If more than one funding institution from a given country participates in the Joint Call, the added amount of all institutions from this country is considered as the country's overall Joint Call contribution.

An overview of the contribution from each funding institution to each of the call topics is given in **Annex 2**, page 25.

Some funding institutions may decide to set an **upper limit for the budget that can be requested per project partner** from their country. The upper funding limits may thus vary from one country to the other. **Applicants should therefore thoroughly check the national and regional regulations stipulated at http://eranet-lac.eu/Joint_Calls.php** and are strongly recommended to contact their National Call Contact Persons (**Annex 3**, page 26/27) before submitting their proposal.

3. Proposal submission

Project proposals must be submitted electronically using the CYTED webtool which is accessible directly at: <http://calleranet-lac.cyted.org> and through a link given on the ERANet-LAC Website: www.eranet-lac.eu. The only currency to be applied in the proposal is EURO. All proposals must be written in English. The only currency to be applied in the proposal is EURO.

The coordinator should fill in the webtool on behalf of the whole consortium and submit the proposal. Thus only one online proposal per project is needed. The coordinator must confirm that the proposal is endorsed by all project partners by clicking the relevant box in the CYTED webtool. A printed version of the proposal should not be sent to the Call Secretariat, but may be required by some national funding agencies (see National regulations).

The Online Submission Form is structured in four different fields or pages, each one including various sections (described below) to be filled in by the applicants. Additionally, there is a fifth page for checking and submitting the proposal.

The applicants may find useful to check the Guidelines for Applicants, available at the following web pages: <http://www.eranet-lac.eu> and <http://calleranet-lac.cyted.org>.

1st page: PROJECT

The general information of the project is requested on this page. Sections:

- **Section ‘Project data’:** in this section, the coordinator must include all the main data of the project, such as: Project title, overall costs, project acronym, keywords, etc. All the table fields must be filled with the relevant data.

The coordinator must select the **topic**, among the 6 topics included in the Call, for which the consortium wishes to address their proposal to.

If participating in the “Ocean energy and research infrastructures”, the coordinator must select the infrastructure/s in which the research will be carried out. More information regarding the participating infrastructures can be found in **Annex 5, page 28**.

- **Section ‘Executive summary’:** Brief text summarizing the aim of the proposal, its specific objectives, expected results (research and/or innovation potential, economic benefit, commercialization, etc.). Maximum length: ½ page.
Please note that this Executive summary will not be published.

2nd page: PARTNERS

- **Section ‘Partner data’:** The following information must be included by partner:
 - If the partner is acting as coordinator;
 - Organization/Institution and its Acronym; Center; Department; Group/Laboratory/Unit;
 - Group Leader data: First name and Family Name; Title; Position;
 - Members of the group;
 - Address; City; Post code; Country; Telephone; e-mail; Web site;

- **Section ‘Financial data’:** Each participant must include the following information:
 - Type of partner (beneficiary or associated/self-financed);
 - Type of partner (beneficiary or associated/self-financed)
 - Funding agency:
 - Activity type (Higher education, research, industry, SME, others)
 - Total effort (person months)
 - Total costs (€)
 - Total requested funding (€)

- **Section ‘CV and professional experience’:** Brief CV of the coordinator and the group leader including the five more relevant publications of the last five years. Maximum length: one page per partner.

- **Section ‘Project costs’:** Partners must include the data related with:
 - Personnel costs: average monthly salary (€), person-months, total costs (€), requested funding (€).
 - Equipment: description, total costs (€), requested funding (€).
 - Materials: description, total costs (€), requested funding (€).
 - Subcontracting: subcontractor, description, total costs (€), requested funding (€).
 - Travel and subsistence costs: description, total costs (€), requested funding (€).
 - Other costs: description, total costs (€), requested funding (€).
 - Overheads: percentage overheads, total costs (€), requested funding (€).

3rd page: TECHNICAL DESCRIPTION

Sections:

- **Publishable summary of the project:** For publication purposes. Maximum length ¼ page.

- **Scientific and technological challenge:** Applicants are requested to describe the relation and relevance of the project to the topic, and the international competitiveness, novelty and innovation potential of the proposal. Maximum length 1 page.

- **Technical and scientific description of the project:** Applicants are requested to describe the state of the art; technical milestones and expected results; methodologies and technologies proposed to obtain goals; recent research relevant to the project undertaken by the project partners; brief CV of each partner, emphasizing the scientific/technical expertise which is crucial for the success of the project. Maximum length: 4 pages.

- **Work plan:** Applicants are requested to describe the project structure; individual work package description (milestones, deliverables, time schedule) and partners involved; risks assessment (including scientific/technology, management and commercial risks); viability and feasibility of the proposal, emphasizing the relevant expertise of the partners, and the existing and requested resources (equipment, manpower, etc.); monitoring and management of the project. Maximum length: 3 pages.

- **Transnational/EU-CELAC related benefit & added value:** Applicants are requested to describe the relevance of the proposal in terms of transnational cooperation, and

importance of complementarity of the expertise of EU and CELAC partners; added value of the transnational cooperation (e.g. future potential to participate in other transnational collaborative activities such as EU Framework Programme, extent of knowledge between partners including exchange of personnel, etc.). Maximum length: ½ page.

Potential for economic impact and applicability and exploitation of results: The following aspects will be taken into account: Scientific advantage and potential for economic impact; Feasibility; Involvement of stakeholders; Communication and dissemination of results; Exploitation and transfer of results; management of intellectual property issues and consortium agreements. Maximum length: 3 pages.

- **Main facilities and equipment:** Applicants are requested to describe, if applicable, any significant facility or large-scale equipment that is available to the consortium in order to fulfil the aims of the project. Maximum length: ½ page.
- **Status of the Consortium Agreement:** Applicants are requested to provide a brief outline of the Consortium Agreement, including whether it is at the initial or final draft stage, or in the process of being signed; and an indication as to the expected date of the agreement signature. Maximum length: ½ page.
- **Related proposal submitted to other funding agencies:** Applicants are requested to indicate whether the project (as a whole or parts of it) has been submitted to other funding agencies. If so, please indicate the funding agency, the final outcome, and any potential overlapping (complementarity, synergy) with the present proposal. Maximum length: ½ page.

4th page: ANNEX

Any additional information relevant for the proposal can be added here (e.g. technical drawings, diagrams, charts, etc.), including the Letter of Commitment of the self-financed / associated partners. Documents in pdf, Word and images (.png; .jpg) are admitted.

5th page: SUBMISSION

- **Section ‘Check’:** before sending the proposal, it is possible to check the format and compliance with the application requirements. This revision is done automatically when the complete proposal is submitted but it can also be done at any time during the preparation of the proposal.
- **Section ‘Draft’:** before submitting the proposal it is possible to generate a .pdf draft in order to detect and correct possible mistakes, and to check that all the information required is being provided in the proposal.
- **Section ‘Submit’:** this section allows the final submission of the proposal. The data will be saved and the applicant will be able to generate a .pdf file for saving or printing purposes. Once the proposal has been submitted, it is not possible to modify it.

Proposals sent by post, e-mail, fax, telex or facsimile will be rejected. All proposals must be written in English.

Once the proposal is submitted the web-tool sends a confirmation by email:

Subject: [EU-CELAC Joint Call 2017/18] Proposal form submitted: Proposal No. XXX

Body of the message:

*Dear Sir/Madam,
Your application form has been submitted successfully, with reference
to: Proposal No. XXXX
Please find attached the proposal form submitted.
ERANET-LAC Joint Call Office*

Recipients:

To: email address of the applicant.

Attachments: pdf of the application form

The web-tool will be open for proposal submission from 20th November 2017 15.00 hrs CET to 8th March 2018 (deadline 15.00 hrs Central-European Time).

More information on how to submit a proposal with the OnlineTtool can be found in the Guidelines for Applicants.

Some funding organizations may ask the applicant to submit a parallel proposal to the funding organization in line with the national/regional requirements. This can be done once the joint proposal has been submitted to the Call Secretariat or after the joint proposal has been evaluated. These additional proposals submitted to the national/regional funding organizations may be evaluated or may not be evaluated by the funding organization, according to the rules and regulations of the funding organization. For further details about each funding organization's requirements with regard to proposal submission, please see http://eranet-lac.eu/Joint_Calls.php.

4. Proposal evaluation and funding decision

4.1 Evaluation and Selection Procedure

4.1.1 Evaluation Procedure

The evaluation process involves four steps:

- 1) Eligibility check: Will be realized by the Call Secretariat, in cooperation with the national partner representatives. In addition, the Scientific Evaluation Committee (SEC) will check the eligibility considering the matching of the proposals in the scope of the topic.
- 2) External written peer review: Will be done remotely by at least three experts covering the specific fields of the research topic(s) addressed in the EU-CELAC Joint Call. Each evaluator fills in an individual evaluation form whereby s/he assigns a score to each evaluation item. The evaluator also assesses the alignment of the Proposal with the objectives and scope of the call.
- 3) Ranking of proposals according to the external evaluation results, selection of the best proposals and funding recommendations: Will be done by the Scientific Evaluation Committees (SECs) in a consensus meeting, organized by the Call Secretariat. Each SEC should have at least three experts.
- 4) Selection of the proposals recommended for funding: Will be done by the Group of Funding Parties Final funding decision, taking into account the evaluations and the budget allocated, and all applicable national regulations.

The Scientific Evaluation Committees will formulate a short consensus report for each proposal (strengths and weaknesses) that will be forwarded upon request to the coordinators of the

proposals after the evaluation and decision taking by the Group of Funding Parties has been completed.

4.1.2 Eligibility Check / Eligible beneficiaries

Applicants are strongly advised to contact their National Call Contact Persons in due time before submission to check their national eligibility. The list of CCPs is provided in **Annex 3** (page 26) and also on the call website (www.eranet-lac.eu/Joint_Calls).

A proposal must:

- Conform to the scope and the thematic focus of the call as described in **Annex 1** (page 17 ff);
- meet the consortium composition requirements as specified on page 6, section 2.3;
- comply with the maximum allowed duration (see page 7, section 2.4);
- comply with the funding principle as specified (see page 7, 2.5 and National Funding Regulations listed at http://eranet-lac.eu/Joint_Calls.php);
- comply with the terms of the submission procedure as specified in paragraph 3, page 8 ff, proposal submission);
- be complete according to the rules and in line with the required proposal structure described in the Guidelines for Applicants;
- be submitted in English;
- be submitted electronically using the online tool at <http://calleranet-lac.cyted.org> (see section 3, from page 8);
- meet the submission deadline (see pages 1 and 16).

Please note: The Energy topic has additional eligibility criteria as described in Annex 1, page 19/20. **For the energy topic specific contact persons for research infrastructures are available, see Annex 3, page 26). Please check details with the contact person of the infrastructure concerned.**

Following submission, proposals will be subjected to an eligibility check.

- First, the Call Secretariat will check the eligibility of the proposals against the criteria agreed by the Group of Funding Parties.
- It will then inform the Group of Funding Parties about the results, providing the rationale for non-eligibility of individual proposals (if relevant) and ask the members of the GFP to check and confirm the eligibility of applicants from their country, according to their national regulations (see http://eranet-lac.eu/Joint_Calls.php for National Regulations).
- The Scientific Evaluation Committees (approved by the GFP and constituted by experts) will check the eligibility considering the matching of the proposals in the scope of the topic.
- Finally, each Funding Party will approve the list of eligible proposals from its national applicants to the Call Secretariat. And the Call Secretariat will inform the Group of Funding Parties (GFP) about the results providing the rationale for non-eligibility of individual proposals (if relevant).

Only proposals meeting all the above-mentioned eligibility criteria will be processed by the Call Secretariat. Non-eligible proposals will be rejected. The applicants will be informed by the Call Secretariat.

Decisions about eligibility of proposals by the GFP are final.

4.1.3 Evaluation criteria

The evaluation procedure will be done according to the criteria defined in the following:

1. Excellence

Note: The following aspects will be taken into account, to the extent that the proposed work corresponds to the topic description:

- Clarity and pertinence of the objectives;
- Credibility of the proposed approach;
- Soundness of the concept, including trans-disciplinary considerations, where relevant;
- Extent that proposed work is ambitious, has innovation potential, and is beyond the state of the art (e.g. ground-breaking objectives, novel concepts and approaches).

For energy topic only: Appropriateness of the proposal to the research infrastructure capability (evaluators will benefit from the advice and support of experts from the selected research infrastructure)

2. Impact

Note: The following aspects will be taken into account, to the extent to which the outputs of the project should contribute at the European and/or CELAC International level:

- The expected impacts listed in the topic description under the relevant topic;
- Enhancing research and innovation capacity and integration of new knowledge;
- Any other environmental and socially important impacts;
- Effectiveness of the proposed measures to exploit and disseminate the project results (including management of IPR), to communicate the project, and to manage research data where relevant.
- In case of industry and SME participation: Strengthening the competitiveness and growth of companies by developing innovations meeting the needs of global markets, and where relevant, by delivering such innovations to the markets
- Added value for the EU-CELAC cooperation in R&D&I
- Mobility, networking and training of human resources in both regions.

3. Quality and efficiency of the implementation

Note: The following aspects will be taken into account:

- Coherence and effectiveness of the work plan, including appropriateness of the allocation of tasks and resources;
- Complementarity of the participants within the consortium (when relevant);
- Appropriateness of the management structures and procedures, including risk and innovation management.
- For energy topic only: Appropriateness of the proposal to the research infrastructure

4. Potential for economic impact and applicability and exploitation of results

Note: The following aspects will be taken into account:

- Scientific advantage and potential for economic impact
- Feasibility
- Involvement of stakeholders
- Communication and dissemination of results
- Exploitation and transfer of results
- Management of intellectual property issues and consortium agreements;

4.1.4 Rating Scores

Each of the mentioned evaluation criteria will be measured through categories and on the below 5 - 0 scale.

EXCELLENT = 5 points The proposal successfully addresses all relevant aspects of the criterion. Any shortcomings are minor.
VERY GOOD = 4 points The proposal addresses the criterion very well, but a small number of shortcomings are present.
GOOD = 3 points The proposal addresses the criterion well, but a number of shortcomings are present.
FAIR = 2 points The proposal broadly addresses the criterion, but there are significant weaknesses.
POOR = 1 point The criterion is inadequately addressed, or there are serious inherent weaknesses.
0 points The proposal fails to address the criterion or cannot be assessed due to missing or incomplete information.

No additional criteria will be used for evaluation and selection of the proposals.

4.2 Priority Ranking through of the Scientific Evaluation Committees

The Scientific Evaluation Committees (SECs) approved by the GFP and constituted by experts or scientific experts, will rank the proposals based on the online evaluations and internal discussions and **recommend to the GFP a list of proposals to be funded.**

4.3 Funding Organizations' Meeting

The GFP will take the **final decision on the proposals** to be recommended for funding on a consensus basis, based on the recommendations of the Scientific Evaluation Committees. It will discuss and approve the recommended projects according to the ranking list and available budget. The formal funding decisions are made by the national funding organizations. The funding will be administered according to the terms and conditions of the participating national and regional funding institutions, taking into account the applicable regulations and available funding.

All applicants will be informed about the outcomes of the evaluation within one month after the funding decision.

5. Funding contract

Following the funding decision, all applicants will be informed by the Call Secretariat about the results of the evaluation process and the next steps to be taken. From then, the national phase will start in each participating country or region. The project partners of each proposal to be funded will conclude an individual funding contract with their respective national/regional funding institution. This may mean that partners of a successful proposal will have to submit an additional application to their national/ regional funding institution to receive their funding.

Before the start of the funding, the Call Secretariat will send a fact sheet with ERANet-LAC regulations that will apply to all projects participating in the ERANet-LAC Joint Call to all partners of a successful project.

6. Project implementation and reporting

Each consortium funded in the frame of the present EU-CELAC Joint Call must sign a **Consortium Agreement** listing the rights and responsibilities of each project partner (see page 6f, section 2.3.1). Depending on the nature of the funded project, special regulations should be included in the Consortium Agreement regarding **Intellectual Property Rights**. Scientific and technological results and any other information derived from the project can be announced, published or commercially exploited with the agreement of the partners of the funded projects and according to the national/regional regulations as well as international agreements concerning intellectual property rights.

The following regulations will apply to all projects that are funded in the frame of the present EU-CELAC Joint Call:

- In any publication of results, mention must be made of the support received in the frame of the ERANet-LAC 3rd Joint Call ("This work was supported by ...). The ERANet-LAC logo and the internet address <http://www.eranet-lac.eu> should also be shown on the publication.
- Funding recipients must ensure that all outcomes (publications, etc.) of funded projects include a proper acknowledgement of ERANet-LAC and the respective national/regional funding partner organizations.

The coordinators of the funded projects will be requested to send the consortium agreement to the EU-CELAC Call Secretariat, latest 31st January 2019.

Individual reporting to the national/regional funding institutions might be necessary depending on national/regional regulations.

The progress and final results of each individual contract/letter of grant will be monitored by the respective national/regional funding organizations.

7. Time schedule for the 3rd ERANet-LAC Joint Call

Publication of the Call for Proposals	Monday, 20 th November 2017
Deadline for proposal submission	Thursday, 8 th March 2018 (15.00 CET)
Eligibility check: International and national as well as technical feasibility check of proposals	Starting with the submission of the proposals, ending 31 st March 2018
External evaluations	Starting end of March until 25 th May 2018
Scientific Evaluation Committees' meeting (ranking of proposals)	Starting end of May until 30 th June 2018
Meeting of funding parties to decide which proposals will be funded	Beginning of September 2018
Information of applicants about the results of the evaluation	End of September 2018
Preparation of national/ regional funding contracts/funding decisions	September until November 2018
Start of projects	November 2018 – January 2019
Provision of Consortium Agreement to the Call Secretariat	Before 31 st January 2019
Maximum duration of projects	36 months

Annex 1: Topics for the EU-CELAC Joint Call in the thematic fields of Biodiversity / Climate Change, Bioeconomy, Energy, Health and ICT

BIODIVERSITY / CLIMATE CHANGE

Observatories network on biodiversity and climate change: Coordinating data acquisition and fostering data access and transfer

<p>Specific challenge:</p> <p>Why is this area relevant and which societal challenges does it address?</p>	<p>One of the major challenges for the bi-regional cooperation on biodiversity and climate change is the strengthening of networks of environmental observatories so that multi-scale environmental changes can be soundly assessed and interpreted. To achieve this goal, there is a strong need for the homogenization of survey designs, data collection and statistical analyses at both regional and local levels. Studies coupling long-term monitoring and shorter-term studies and experiments should be encouraged. Moreover, promoting small research projects on database analysis, involving research teams and infrastructures or synthesis centers from both regions, is a key component in strengthening the bi-regional cooperation. This will contribute to facilitating data integration on biodiversity and climate change, in line with the recommendations arising from international networks and initiatives already operating in this field (IPBES, IPCC, GBIF, GEO BON...).</p>
<p>Scope:</p> <p>Added value gained from EU-CELAC cooperation for both regions</p>	<p>The strengthening of environmental data monitoring and further management calls for improving interdisciplinary cooperation, which will serve both regions by structuring solid research networks. Research in Earth, life and social sciences must be integrated for improved modeling development across scales (from local to global) and disciplines (from climate physics to anthropology). The development of scientific scenarios should be addressed with an interdisciplinary approach (interdisciplinary climate-related ecosystems and biodiversity vulnerability assessment). Monitoring and understanding of extreme events can be better assumed by combining geo-bio-physical analyses, such as studies on land-ocean-atmosphere interactions. Data management plan and data life cycle analysis (managing the data and making the data available to guarantee database life and availability) should be considered. The use of existing platforms of information and data would allow avoiding overlaps and duplication of efforts. Joint projects are encouraged to include short training events (summer schools, specialized training courses) on building databases, bioinformatics or data management plans.</p>
<p>Expected impact for both regions:</p>	<p>Implementation of observatories networks will avoid duplicated efforts, raise complementary knowledge and strengthen understanding of ongoing changes and their impacts. Lessons learned from different disciplines and environments would be exploited, thus enabling transfer of knowledge between different countries and different ecosystems. Furthermore this will improve the connectivity between ecosystems, policies and research fields.</p>

BIO-ECONOMY

Biorefinery: Intermediate and/or high added value bioproducts

<p>Specific challenge:</p> <p>Why is this topic relevant and which societal challenges does it address?</p>	<p>The development of self-sustainable plants with minimum production of residues and fossil energy consumption is an important economic and environmental challenge. The development of modular units for fractionating and valorising similar multi-feedstock residues (agricultural and agro-industrial residues, and any organic disposable with good valorisation potential) will contribute to the debottlenecking of biorefineries development.</p> <p>Lignocellulosic biomass feedstock consists mainly of C6 and C5 sugars (cellulose, hemi-cellulose) and lignin. This renewable feedstock can be used for the production of sugar-based or phenolic-based bulk chemicals. Due to the high stability of lignocellulosic material, economically feasible production of bio-based chemicals is still a major challenge.</p>
<p>Scope:</p> <p>Added value gained from EU-CELAC cooperation for both regions</p>	<p>Proposals should aim at assessing agro-industrial waste, characterizing and evaluating the potential uses of bio-based residues. The call will focus on process intensification and development of new technologies that contribute to the establishment of self-sustainable biomass processing sites. The development of flexible (also multi-feedstock) technologies to be integrated to current processing sites is expected.</p> <p>Proposals should aim at the conversion of C5 and C6 sugars. The evaluation of lignin chemistry and conversion, as well as the use of lignocellulosic sources to produce chemical building-blocks for the chemical industry, are also important. Proposals should include environmental, economic and social sustainability assessment along the whole value chain (support activity).</p>
<p>Expected impact for both regions:</p>	<ul style="list-style-type: none"> - Valorisation of agricultural and agro-industrial residues - Energy intensification through efficient integration in a single site - Environmental benefits at current biomass processing sites - Assessment of losses in the feed and industrial chain, to help establishing regulatory frameworks, - Development of new biotechnology-based businesses - Reduced pressure on edible renewable biomass for energy and chemicals production - Reduced dependency on petrochemical products, such as furfural or phenol resin. - New synthesis routes of renewable chemicals

ENERGY

Ocean energy: Development of technologies for the energy valorization of marine resources within existing large research infrastructures.

<p>Specific challenge:</p> <p>Why is this topic relevant and which societal challenges does it address?</p>	<p>The fight against global warming should include the development of technologies that could provide abundant and CO₂ –free energy. In particular, marine energy technologies, using available resources over 2/3 of the Earth’s surface, are in a starting/medium stage of development. The technological options for marine energy resources exploitation are based on the utilization of the kinetic energy of sea wave and currents, the potential of tides, and the thermal and salty gradients in the ocean surface. The development of those technologies require specific infrastructures to test devices in real operation conditions, either in the sea for more advances concepts, or into specially designed pools able to simulate sea conditions (waves, wind,.etc). This topic will contribute to the development of marine energy technologies in the framework of a transnational cooperation enabling the utilization of common available infrastructures.</p>
<p>Scope:</p> <p>Added value gained from EU-CELAC cooperation for both regions</p>	<p>The efforts towards the development of wave, tidal and current, ocean thermal and salt gradients energy production devices will be focused on the following aspects or subtopics:</p> <ul style="list-style-type: none"> • Validation of computational models in laboratory and field facilities (including its application to production evaluation). • Material development and/or evaluation for equipment operating in an aggressive saline environment. • Development of standard environmental impact evaluation methodologies. • Offshore and coastal multipurpose devices and multipurpose use. (co-location, cogeneration). • R&D focus on testing of systems, subsystems and components of marine renewable energy prototypes. • Data collection/evaluation of resources

<p>Expected impact for both regions:</p>	<p>For both regions this offers generation of knowledge highly valuable for both regions in scientific, environmental and technology development; monitoring and determination of specific sites with the potential for the implementation of strategies focused on the harnessing of ocean energy. Expected impacts are:</p> <ul style="list-style-type: none"> - Reduction of costs for the development of prototypes - Identification and/or development of suitable materials for marine energy devices. - Harmonization of environmental analysis methods between both regions. - Technology exchange between both regions. - Open new markets for developers and common marine device standardization
<p>Special eligibility conditions applicable to this topic</p>	<p>Research and innovation project proposals must include in all cases the use of at least one of the large research infrastructures participating in the call. See Annex 7 for a description of the infrastructures.</p>
<p>Additional information</p>	<p style="text-align: center;">  3rd Call - Topic Energy.pdf </p>

HEALTH

Infectious Diseases: Early detection research including both screening and Diagnosis

Specific challenge: Why is this area relevant and which societal challenges does it address?	The design of new techniques to early detection of infections including both screening methods and confirmation diagnosis procedures. National and international agencies require diagnostic procedures with very high accuracy and reliability to detect the microorganism and the disease impact. Otherwise they cannot be licensed as clinical diagnostic techniques.
Scope: Added value gained from EU-CELAC cooperation for both regions	The high morbidity and mortality still associated to many infections are related to difficulty for their early detection. Most of patients with risk factors to a number of infectious diseases are inappropriately treated since reliable and early methods to detect the infection do not exist.
Expected impact for both regions:	Reduce the overtreatment which generates toxicity and unnecessary expenses, and also increasing the likelihood of developing resistance to antimicrobial agents. Development of diagnosis system for viable but non-cultured pathogens Development of diagnosis systems for novel and emerging pathogenic microorganisms Novel diagnostic approaches using new sequencing and high throughput sequencing

INFORMATION AND COMMUNICATION TECHNOLOGIES (ICT)

ICT platform for Learning and Inclusion

<p>Specific challenge:</p> <p>Why is this area relevant and which societal challenges does it address?</p>	<p>Currently, the world is getting more and more technology-driven and globalized. Novel generations create their viewpoints and collect much of their knowledge and skills via the internet and social media. It is therefore increasingly important to boost the interconnections between learning environments and ICTs. ICT plays a key role in the modernization of learning and training. The challenge is to revamp the learning ecosystem and better prepare teachers for the digital age. Collaboration between stakeholders (public, private, entrepreneur, innovators, and academia) leads to crucial innovative practices motivating the learning and teaching experiences that facilitate the learning and training lifecycle that embraces the current technology challenges and enables the uptake of ICTs skills for better employment.</p>
<p>Scope:</p> <p>Added value gained from EU-CELAC cooperation for both regions</p>	<p>The topic “ICT platform for Learning and Inclusion” was included among the top 10 priorities for EU-LAC cooperation on R&I by a survey carried out within the context of the FP7-funded project “LEADERSHIP”. Based on the findings of this survey (answered by 523 relevant stakeholders) it was detected that priorities of common interest exist in Latin America for ICT R&I, and these priorities are aligned with the European R&I priorities defined in Horizon 2020. This creates a solid basis for future cooperation between Europe and Latin America in ICT R&I. Multimedia systems that make use of different senses can support teaching and learning in both regions. The adoption of new methods may be enhanced by new technological and content-related tools and forms of embodied education and training.</p>
<p>Expected impact for both regions:</p>	<p>The action will raise awareness and impact on an extensive participation of citizens having a rather weak access to the uptake of innovative technologies involved in education, training and inclusion: the elderly, unemployed, migrants, disabilities, homeless, or people living in remote or poorer areas.</p> <p>EU-CELAC cooperation in this area may gain more in-depth research data about the mechanisms, preconditions, opportunities and threats to knowledge, skills and competencies through ICTs.</p>
<p>Note:</p>	<p>The topic encourages projects based on interdisciplinary or multidisciplinary co-operation between disciplines. It integrates engineering research to social sciences and humanities research.</p>

ICT for urban sustainability: Nature-based Solutions, citizen science and systemic urban planning

<p>Specific challenge:</p> <p>Why is this area relevant and which societal challenges does it address?</p>	<p>Over 80% of LAC people live in urban areas, requiring understanding of challenges cities face. Urban challenges such as sustainable urbanization, climate change adaptation and mitigation, disaster risk reduction, well-being and health, or social equality, could offer a unique opportunity to shape an emerging global bi-regional dialogue on best practices on urban development, which cuts across many sectors.</p> <p>Research and innovation can provide the necessary knowledge and evidence base to develop and adopt innovative solutions to address the Sustainable Development Goals (SDGs). EU urban R&I focuses on cities as actors of open innovation for urban regeneration, circular economy, health and climate resilience, including through Nature-based Solutions.</p> <p>Nature-based Solutions (NBS) are living solutions inspired and supported by nature that can address in a cost-effective way a series of social, environmental and economic challenges. This multiple benefit character of NBS can be especially useful in fast growing, densely populated cities. R&I on NBS is currently being developed at EU-level with specific Horizon2020 calls and the selected projects will contribute to the knowledge and evidence base for NBS and hence to the uptake and upscale of these solutions in the EU and elsewhere.</p> <p>NBS need supporting tools for their co-creation, implementation and monitoring. ICT enabling-tools for Nature-based Solutions, citizen science and systemic urban planning would neatly complement the ongoing H2020 projects and the ones arising from the new H2020 calls on NBS (2018-2020).</p> <p>The idea of 'digitally enabled' nature seems key to the deployment of NBS in the EU - through new technologies for data monitoring, new data exploration/extraction techniques, and forms of citizen science are certainly key features. Co-creation platforms including decision tools (simulation, visualization/virtualization, open data/information platforms) and living labs enable to increase awareness and inhabitants' involvement in NBS co-creation, implementation and monitoring.</p>
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<p>Scope:</p> <p>Added value gained from EU-CELAC cooperation for both regions</p>	<p>R&I will develop and implement innovative ICT tools for NBS around three main areas:</p> <ol style="list-style-type: none"> 1. Stakeholder involvement (co-creation of NBS) and knowledge dissemination; 2. Design and implementation of NBS: the development of tools that could be useful for the design of specific NBS according to the context and the scale of implementation; for quantifying ecosystem functions and services; for providing economic valuation; or examining ecosystem services trade-offs. 3. Evaluation of the effectiveness of NBS performance: monitoring schemes and dissemination of results. <p>ICT tools can contribute to these three main areas through a diverse set of approaches. These could include geo-mapping, e-participation and direct democracy; analytics and visualisation; open data integration; citizen science (e.g. monitoring of environment); collective assessment or crowdsourcing.</p> <p>Pilots or test beds shall be applied in both regions and increase contributions to the state of the art, develop smart cities technologies and support the generation of a bi-regional community for best practices in NBS.</p>
<p>Expected impact for both regions:</p>	<p>A bi-regional cooperation on ICT tools for NBS will support the ongoing R&I on NBS and the further implementation and mainstreaming of NBS in the EU and LAC.</p> <p>Expected impacts are: increased social, economic and environmental sustainability of cities through innovative NBS; more citizen participation in urban sustainability governance; enhanced human capital for innovation; more ICT-based business opportunities; proposed viable solutions across different urban settings.</p>

Annex 2: Overview of contributions by the participating funding organizations to each topic

Country	Funding Agency	Observatories' network on biodiversity and climate change:	Biorefinery: Intermediate and/or high added value bioproducts	Ocean energy / research infrastructures	ICT platform for Learning and Inclusion	ICT for urban sustainability:	Infectious diseases	Total
Argentina	MINCYT			100.000		50.000		150.000 €
Barbados	CSF				10.000			10.000 €
Belgium	F.R.S.-FNRS					yes	yes	200.000 €
Bolivia	MINEDU	yes	yes		yes	yes	yes	See footnote page 4
Brazil	CNPq		100.000			100.000	100.000	300.000 €
Brazil	FAPESP	yes	yes	yes	yes	yes	yes	400.000 €
Chile	CONICYT				yes	yes	yes	up to 80K p. project
Costa Rica	MICIT	100.000		100.000				200.000 €
Cuba	FONCI	yes	yes	yes	yes	yes	yes	34.000 €
Dom. Rep.	MESCYT	75.000	100.000	75.000	100.000	75.000	150.000	575.000 €
Ecuador	SENESCYT	yes	yes	yes	yes	yes	yes	500.000 €
Finland	AKA				500.000			500.000 €
Germany	DLR/BMBF	yes	yes	yes		yes	yes	1.500.000 €
Guatemala	CONCYT	yes	yes	yes	yes	yes	yes	380.000 €
Israel	CSO-MOH						up to 300.000	300.000 €
Mexico	CONACYT			up to 500.000				500.000 €
Panama	SENACYT	50.000	50.000	50.000	50.000	50.000	50.000	400.000 €
Peru	CONCYTEC	100.000	100.000	100.000		100.000	100.000	500.000 €
Poland	NCBR	160.000	160.000		160.000	160.000		640.000 €
Spain	ISCI						250.000	250.000
Spain	MINECO	150.000		500.000				650.000 €
Turkey	TUBITAK		yes		yes	yes	yes	2.000.000 €
Uruguay	ANII		50.000	30.000	Total 50000		50.000	180.000 €

Annex 3: Contact information, Call Contact Persons

The **ERANet-LAC Call Secretariat** (CS – see contact data on page 27) is entrusted with the overall operational management of the present EU-CELAC Joint Call. It is the general contact point for first questions related to the Joint Call, the application process and the use of the CYTED webtools.

The **Call Contact Persons (CCPs)** are located in each country which participates in the present Joint Call. One of their main tasks is to advise the potential applicants from their countries/regions on the applicable national/regional regulations during the proposal submission process.

CALL CONTACT PERSONS			
Argentina	MINCYT	Alejandra Davidziuk	madavidziuk@mincyt.gov.ar
		Agustina Velo	avelo@mincyt.gov.ar 0054 11 4899 5000 (ext 4150)
Barbados	CSF	Cardinal Warde	warde.csf@gmail.com Tel: +1-617-699-1281
Belgium	F.R.S.-FNRS	Joël Groeneveld	joel.groeneveld@frs-fnrs.be Tel: +32 (0) 2504 9270
Bolivia	MINEDU	Mauricio Céspedes	wmauriciohcq@hotmail.com Tel: 00591 7011 7444
Brazil	CNPq	Lelio Fellows Filho	leliof@cnpq.br Tel: 0055 61 3211 9247
Brazil	FAPESP	Glenda Mezarobba	Glenda@fapesp.br Tel: (11) 3838 4191
Chile	CONICYT	Pedro Figueroa	pfigueroa@conicyt.cl
Costa Rica	MICIT	Federico Torres	federico.torres@micit.go.cr Tel: 00506 2539-2201
Cuba	FONCI	Armando Rodríguez Batista	armando@citma.gob.cu Tel: 0053 78 32 0131
Dom. Republic	MESCYT	Lizbeth Mieses, Katia Krispin	pgomezramirez@gmail.com; lmieses@mescyt.gob.do; crisva@gmail.com
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Germany	BMBF / DLR	Marianne Vaske	Marianne.vaske@dlr.de Tel: +49 228 3821-1439
		Sophie von Knebel	Sophie.KnebelDoeberitz@dlr.de Tel: +49 228/38 21-1628
Guatemala	CONCYT	Dora Fuentes	lmonterroso@concyt.gob.gt Tel: +502 2317 2600 ext. 125
Israel	CSO-MOH	Ayelet Zamir	ayelet.zamir@MOH.GOV.IL Tel: +972-2-5082168
Mexico	CONACYT	Moira Karosuo	mkarosuo@conacyt.mx (+52 55) 5322 7700 Exts. 1763, 1737 & 1764
Panama	SENACYT	Carlos Aguirre	caguirre@senacyt.gob.pa Tel: +507 517 0064
Peru	CONCYTEC	Pamela Antonioli	convocatorias@cienciaactiva.gob.pe Tel: +51 644-0004
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Spain	ISCIII	Dori Campo	doricampo@isciii.es Tel: + 34 91 822 2489
Spain	MINECO	Juan Climent	eranetlac@aei.gob.es juan.climent@aei.gob.es +34 91 603 7242
Turkey	TUBITAK	Oguz Ozkan	oguz.ozkan@tubitak.gov.tr / uidb@tubitak.gov.tr 0090 312 298 1774
Uruguay	ANII	Verónica Suarez	vsuarez@anii.org.uy cooperacion@anii.org.uy/ Tel: +598) 26004411 / 217
		Laura Di Giovanni	cooperacion@anii.org.uy/ ldigiovanni@anii.org.uy Tel: +598) 2600 44 11 Ext. 231

Annex 4: List of National Contact Persons for Energy infrastructures

Research Infrastructure	Contact person	Country	e-mail
Environmental Hydraulics Institute of Cantabria "IHCantabria"	Álvaro Álvarez	Spain	alvaro.alvarez@unican.es
PLOCAN	Javier González Herrera Marimar Villagarcía	Spain	javier.gonzalez@plocan.eu marimar.villagarcia@plocan.eu
Wave Flume del Instituto de Mecánica de Fluidos e Ingeniería Ambiental de Universidad de la Republica	Luis Teixeira	Uruguay	luistei@fing.edu.uy

CALL SECRETARIAT

Spain	CYTED	Almudena Carrero; Laura Bonora	calleranet-lac@cyted.org +34 91 603 7986 +34 91 603 7565
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Annex 5: Research Infrastructures

I. PLOCAN RESEARCH INFRASTRUCTURE: HOSTING FOR TESTING / OPERATION OF MARINE TECHNOLOGIES

The Oceanic Platform of the Canary Islands (PLOCAN) is a joint initiative between the Spanish and the Canary Islands governments, with the support of the European Regional Development Fund.

PLOCAN is a multipurpose service centre with land-based and sea-based unique infrastructures to support and accelerate research, technology development and innovation in the marine and maritime sector. Its mission is to provide excellence facilities and services to explore and test science and technology concepts and prototypes in coastal and oceanic environments, providing a cost-effective combination of services, such as observatories, test site, base for underwater vehicles, training and innovation hub. PLOCAN makes available for the “Joint Bi-Regional Pilot Call on Ocean Energy and Research Infrastructures” its infrastructures, equipment and services including hosting and testing, operation and maintenance, training and consultancy for novel marine technologies and prototypes. E.g. PLOCAN provides sea-based and land-based infrastructures to host offshore renewable energy devices interested to come to the Canary Islands to learn, design and/or carry out any field test experiments, including technological, environmental, social and economic aspects. PLOCAN offers an integrated service to push forward marine technologies from TRL4 up to TRL8. Examples of PLOCAN services are:

1. MARINE RESERVE: 23 km² with a bathymetry ranging from 0 to 600 meters. PLOCAN has delegated competences in this area from the National Authorities of Spain and, therefore, can facilitate and speed up the processes for permissions and authorizations for marine technology tests/operations.
2. FORECASTING MODELLING & ENVIRONMENTAL MONITORING SERVICES: PLOCAN Marine reserve has been extensively studied and real or almost real-time measurements are taken periodically to provide a standardized 3 days forecasting assessment for key parameters for Ocean Energy such as: wave direction, height and frequency and currents and Wind intensity and direction. In addition, PLOCAN marine reserve provides the measurement of key oceanographic parameters of the sea water including: temperature, salinity, oxygen, turbidity and chlorophyll; meteorological parameters such as: pressure, air temperature, relative humidity, rainfall and PAR (Radiation). The subsea passive acoustics noise can be also measured by PLOCAN on demand.
3. SUBMARINE ELECTRICITY AND COMMUNICATION INFRASTRUCTURE (ECI): A hybrid cable with the capacity to evacuate up to 5 MW of electricity is available for demonstrations. Furthermore, the data transmission of crucial performance indicators of the marine devices can be also transmitted to land through this cable via fiber optic. The ECI is directly connected to a land substation that allows the flow of the generated power to the Island main electrical grid. In addition a SCADA system is also installed on land to control and register crucial performance indicators that can be transmitted and assessed on PLOCAN Land-based facilities.
4. THE OCEANIC PLATFORM: a fixed offshore platform located, at the same time, close to the coast and near of the edge of the continental shelf, in shallow waters (30 m depth) is also

available to conduct complementary assays and/or explore multipurpose/co-location solutions. The Platform has a net surface of 2,500 m² of research capacity, space for laboratories, instrumented containers and capacity to accommodate permanently researchers distributed in a multi-storey building with a main dock of 1,000 m².

5. LOGISTIC SUPPORT: Based on its field work experience and its stakeholder network, PLOCAN put at disposal of its users logistical support in conducting the experiment. This includes transport of the device from origin to Gran Canaria, interaction with Port authorities for installation, deployment, maintenance, decommissioning, operations, permissions/authorization management and others that may be necessary to successfully test the prototypes.

6. AUTONOMOUS VEHICLES FLEET: the infrastructure is equipped with cutting-edge marine autonomous vehicles both underwater (AUVs) and surface vehicles (ASVs) and well with a Remote Operating Vehicles that can be used if necessary for monitoring, inspection or control activities.

7. LAND-SEA BIDIRECTIONAL COMMUNICATION INFRASTRUCTURE: Besides the ECI that allows submarine communication between PLOCAN Marine test site and its land base, a wide range of modern and traditional sea-land communication infrastructure are available for researchers based at PLOCAN. This includes among others: the main satellite communications (ARGOS, IMARSAT, IRIDIUM), Wi-Fi, Tetra System and Marine Band. All data transmitted can be stored and processed using the PLOCAN Data Processing Centre.

8. LAND-BASED FACILITIES: Researchers coming to PLOCAN may request land base facilities access while their stay at the infrastructure. These facilities include among other: full equipped and connected office spaces, specialized labs and garages for maintenance/repairation, demonstration room, meeting rooms and conference rooms.

BASIC MARINE TEST SITE DATA

AREA: 23 Km²

BATHYMETRY: 0 – 600 m (deeper if needed)

GEOLOGY: Deeply studied. The parameters available for the test site area comprises: size, plasticity, humidity, density, porosity and organic matter. Sea bottom of the test site is composed mainly by different types of sand and some scattered rocky sectors.

ANNUAL AVERAGE WIND SPEED (80 M height): 23,3 -25,3 km/h; 6,5 – 7 m/s

ANNUAL AVERAGE WIND POWER DENSITY (80 m height): 300 – 400 w/m²; approx. 3000 hrs/yr

CURRENT VELOCITY: An average of 170 ± 145 mm/s

AVERAGE WAVE HIGH: 1,05 m (Time series from 1992 – 2014)

AVERAGE WAVE PERIOD: 5,21 s (Time series from 1992 – 2014)

AVERAGE WAVE FREQUENCY : 8, 16 s (Time series from 1992 – 2014)

AVERAGE WAVE POWER (KW):7,2 (3rdQuartile); 5,5 (mean); 6,0 (St. deviation); 3,7 (median)

SURFACE TEMPERATURE RANGE: 18 -24 °C □ SURFACE SALINITY RANGE: 36,60 – 36,95

II. IH CANTABRIA INSTITUTO DE HIDRÁULICA AMBIENTAL DE LA UNIVERSIDAD DE CANTABRIA.

The Environmental Hydraulics Institute is a joint research center that carries out research, knowledge transfer and training of specialists in the fields of fresh and saltwater. This work has allowed IH Cantabria to be at the forefront of national and international organizations working in marine renewables. At IH Cantabria there are over 140 researchers and the center has over thirty years of experience.

IH Cantabria is developing basic and applied research for the study marine renewable energies throughout projects and collaboration with other research centres, administration and industrial and engineering firms. Floating and fixed offshore wind and wave concepts analysis design and simulation have been one of the major topics thanks to in-house models and methodologies supported by a large-scale tests facility (CCOB). During the last ten years, IH Cantabria, has actively participated on more than 60 projects. It also has an extended scientific network with European and American Universities. Based on a continuous R&D process, over the last years IH Cantabria has generated significant scientific contributions to wave energy converters modeling, as well as, wind industry modeling and testing. From the governmental perspective, IH Cantabria has collaborated with different government levels and one for the most important examples is the Spanish wave energy resource atlas designed and created by IH Cantabria.

The Cantabria Coastal and Ocean Basin is a combination of three integrated systems to be used in the applied research of coastal and offshore engineering: experimental, numerical and physical modelling system.

The main goal of the physical modelling system is to carry out testing to measure hydrodynamic and wave-structure interaction processes, which can include the sediment transport effects, the effects of tsunamis and the wave-current and wave-wind interaction. The physical modelling system also includes a wave/current flume able to generate waves, including long-waves such as tsunamis, and following or opposing currents, as well as a large open-area reserve for physical modelling of undefined boundary studies, such as river meanders, estuaries and ports.

Main characteristics:

- Length: 30m
- Width: 44m
- Maximum depth: 3.4 m
- Minimum depth: 0.2 m
- Maximum available testing area: 760 m²
- Wave generation: Segmented system formed by 64 independent wave paddles (0.5m wide and 4.5 m high). Each one is triggered by two articulated arms and a vertical connecting rod. Full 3D active wave absorption. Passive wave absorbers around the full perimeter. Non-linear wave generation, and second order long-wave generation. Lateral panels for directional wave generation with virtual paddles (corner reflection method, increases the width of the wave machine)
- Current generator: 12 thrusters, 900 mm in diameter and 25 kW/thruster
- Wind generator: Group of 9 computer controlled wind fans mounted on a closed portable and variable height frame with a wind stabilization system and funnel.
- Hardware in the loop: Advanced systems for the simulation of aerodynamic performance of small to large wind turbines at laboratory scale including, transient winds, as well as turbine control systems.

Applications

CCOB applications include marine hydrodynamics, flow-structure interaction, offshore technology, safety and reliability of marine structures, offshore platforms, marine renewable energy, floating structures, marine geotechnics, materials engineering for marine environment, design of submarine vehicles, design of oceanographic instrumentation, analysis of constructive systems in the marine environment.

III. WAVE FLUME. INSTITUTO DE MECÁNICA DE FLUIDOS E INGENIERÍA AMBIENTAL DE UNIVERSIDAD DE LA REPUBLICA. URUGUAY

Wave flume has a large canal of 70 m length, 1.5 m wide and 1.8 m height with a piston type wave maker manufactured by VTI, equipped with the AwaSys software from Aalborg University for wave generation and dynamic absorption. The wave maker can generate waves of up to 0.6 m height and 2 s period with 1.2 m water depth.

Measuring equipment:

7 Akamina Wave Height Gauges

1 Nortek Vectrino acoustic velocimeter to measure 3D water velocity

1 Met-Flow UVP-DUO for 1D velocity profiling

Several Honeywell pressure gauges