COLLABORATION AGREEMENT

Between

PARTNER ENTITY: National University of Colombia, Headquarters - Medellin, Colombia.

PARTICIPATING ENTITIES: University College London
COLLABORATION AGREEMENT

Between

DOLLY MONTOYA CASTAÑO, on behalf and representation of the National University of Colombia (hereinafter UNIVERSIDAD NACIONAL DE COLOMBIA), as Rector of the same, by virtue of the powers conferred by Resolution No. 018 of 2021 and Act of Possession No. 001 of 2021, and residing at Carrera 45 No 26 - 85, Uriel Gutiérrez Building in the city of Bogotá DC - Colombia.

UNIVERSITY COLLEGE LONDON, located at Gower Street London WC1E 6BT, UK, hereinafter referred to as UCL;

UNIVERSITY COLLEGE LONDON (UCL) in this agreement will be referred to as "Participant" and UNIVERSIDAD NACIONAL DE COLOMBIA as leader and each of them is a “Party”.

BACKGROUND

That the Royal Academy of Engineering (RAEng-) issued the call “Transforming Systems through partnership 2020-21”, the purpose of which was to: catalyze research and innovation that will provide comprehensive solutions to complex development challenges in areas such as education, water resources management, agriculture and food security, clean energy, healthcare, digital revolution, and accessibility and innovation.

That, to apply to the said call, the UNIVERSIDAD NACIONAL DE COLOMBIA, UNIVERSITY COLLEGE LONDON, THE COMPANIES SOLUCIONES ENERGÉTICAS Y DE AUTOMATIZACIÓN (SEA) and NATIONAL MINING AGENCY (ANM) will then present the following proposal: "Training for the prevention of fires and explosions through the use of data analysis and simulation" related to the contract: TSP2021_100311 as set out in Annex A of this Agreement (the “Proposal”)

That in the said Proposal it was established that the leading and executing entity would be the UNIVERSIDAD NACIONAL DE COLOMBIA.

That the RAEing reviewed and evaluated the Proposal and selected it as the beneficiary of the call.

That on March 18, 2021, it was signed between the Royal Academy of Engineering (RAEng) and the National University of Colombia; As Executing Entity of the Proposal, the Financing Contract TSP2021_100311 as annexed at Annex B, the purpose of which is to: “To develop a robust, software-based educational program that applies data, data analysis, machine learning and artificial intelligence to the prediction and quantification of fire and explosion hazards”. The objective being to enable engineers working in the Colombian industry to enhance their knowledge and develop tools to prevent and manage accidental fires and explosions".
That, however, since a joint Proposal by the Parties has been submitted to the RAEng, it is necessary to sign a specific agreement in order to clearly define the rights and obligations that each of the co-executing Parties have under the TSP2021_100311 Contract.

In this order of ideas, The Parties Agree:

**CLAUSES**

**FIRST.** The purpose of this agreement is to establish the conditions under which the Parties will develop and execute the project entitled “To develop a robust, software-based educational program that applies data, data analysis, machine learning and artificial intelligence to the prediction and quantification of fire and explosion hazards”-hereinafter The Project - which is regulated under the TSP2021_100311 Contract signed between RAEng and UNIVERSIDAD NACIONAL DE COLOMBIA.

**SECOND.** Scope: The scope of the execution of this agreement will include all the pertinent and necessary actions to satisfactorily undertake the Proposal presented to the RAEng contained in contract TSP2021_100311.

**THIRD.** Obligations: The Parties have the following obligations:

a. **JOINT OBLIGATIONS:**
   - Undertake their work on the Project in accordance with the Proposal presented to RAEng.
   - Strictly comply with the deliverables, reports and expected results provided in the Proposal (Annex A to this Agreement)
   - To comply with the obligations with the health systems, occupational risks, pensions and parafiscal contributions, in accordance with the provisions of current regulations.
   - Execute the Project within the term stipulated in this agreement.
   - Make the counterpart contributions in kind and in cash according to the budget approved in the Project.
   - Form a work team with technical capacity and sufficient knowledge to carry out the execution of the Project.
   - Ensure the dedication to the work of the Project of the teachers, students and personnel involved in the execution of the Project, according to the work plan.
   - Promptly on request provide information, documentary evidence and records in respect of the Project that may reasonably require from time to time and at the end of the Project in order to fulfil reporting obligations under the Contract TSP2021_100311

b. **From THE NATIONAL UNIVERSITY OF COLOMBIA:**
   - Coordinate all the working groups based in Colombia and ensure the correct development of the project.
   - Adopt criteria of efficiency, transparency, and economy in the acquisition of goods or services for the project, if applicable.
   - Disseminate the results of the investigation through the relevant channels.
   - The other obligations inherent to the normal compliance and development of the project.
   - Deliver the educational program and will be in charge of the evaluation of the physical modeling tools
• Development of the educational program
• Implementation of the educational program to members of the mining sector and local industry
• Supervise the data collection in the energy-intensive local industry.
• Disseminate of results.

c. From UNIVERSITY COLLEGE LONDON:

• Coordinate all the working groups based in the UK and ensure the correct development of the project.
• Adopt criteria of efficiency, transparency, and economy in the acquisition of goods or services for the project, if applicable.
• Carry out the dissemination of the research results through the relevant channels.
• Certify the counterpart to which it is committed in this agreement.
• Any other obligations reasonably required inherent to the normal fulfilment and development of the Project for UNIVERSIDAD NACIONAL DE COLOMBIA to fulfil its obligations to the Royal Academy of Engineering.
• Advise all stages of the process
• Recommend the physical modelling tools that will be tested and the strategies for data collection
• Critically review the educational program before its implementation

FOURTH. Term: The duration of this agreement will be from the date it is signed until the end of the TSP2021_100311 contract (30 April 2023) signed between RAEng and the National University of Colombia. If the said Contract is extended, this agreement will be extended on mutual written agreement between the Parties.

FIFTH. Value of the Agreement and Contributions: The value of this Agreement for the sum of: (£42,945) made up of contributions in kind and in cash from each of the Parties, as shown below with a exchange rate of $ 4,812 at the time the proposal was submitted (November 29, 2020):

I. Contributions in kind in cash from each of the Parties:

<table>
<thead>
<tr>
<th>CONTRIBUTOR</th>
<th>COUNTERPARTY IN CASH</th>
<th>COUNTERPARTY IN KIND (Colombian Peso)</th>
<th>COUNTERPARTY EQUIVALENT (Pound Sterling)</th>
<th>TOTAL CONTRIBUTION (Colombian Peso)</th>
</tr>
</thead>
<tbody>
<tr>
<td>UNIVERSIDAD NACIONAL DE COLOMBIA</td>
<td>$0</td>
<td>$160,059,258</td>
<td>£33,259</td>
<td>$160,059,258</td>
</tr>
<tr>
<td>UNIVERSITY COLLEGE LONDON</td>
<td>$0</td>
<td>$46,613,000</td>
<td>£9,686</td>
<td>$46,613,000</td>
</tr>
<tr>
<td>TOTAL</td>
<td>$0</td>
<td>$206,672,258</td>
<td>£42,945</td>
<td>$206,672,258</td>
</tr>
</tbody>
</table>
I. **Amount financed by RAEng:** In accordance with the agreement TSP2021_100311, the RAEng will deliver the financing to the National University of Colombia and University Collage London as detailed in the payment schedule contained in Annex C of this Agreement.

**FIRST PARAGRAPH:** In any case, the Parties will use reasonable endeavours to provide the counterpart in kind budgetary contributions established in Proposal TSP2021_100311, and which is found in the annex D to this agreement (ANNEX D: The Contribution- in Kind).

**SIXTH:** Expected results. Based on the fulfillment of the individual and collective commitments of the Parties, the following results are expected (the “Results”) Results shall include all information, know-how, results, inventions, software and other Intellectual Property arising in the course of the Project.

<table>
<thead>
<tr>
<th>Results</th>
<th>Responsible entity for developing the Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>A robust, software-based educational program that enhances the knowledge of engineers working in the Colombian industry</td>
<td>UNIVERSIDAD NACIONAL DE COLOMBIA</td>
</tr>
<tr>
<td>A scientific article</td>
<td>UNIVERSIDAD NACIONAL DE COLOMBIA - UNIVERSITY COLLEGE LONDON</td>
</tr>
<tr>
<td>A technical article</td>
<td>UNIVERSIDAD NACIONAL DE COLOMBIA</td>
</tr>
<tr>
<td>A final report</td>
<td>UNIVERSIDAD NACIONAL DE COLOMBIA</td>
</tr>
<tr>
<td>Partial results from a M. Sc. thesis</td>
<td>UNIVERSIDAD NACIONAL DE COLOMBIA</td>
</tr>
</tbody>
</table>
SEVENTH. Monitoring Committee. Each of the Parties will appoint a person responsible for monitoring all the activities of the Agreement. They will meet at least once a month:

a) From the NATIONAL UNIVERSITY OF COLOMBIA:

   Name: Teacher Jorge Martin Molina Escobar.
   Department: Geosciences and environment
   Faculty of Mines-Medellin Headquarters
   Phone: 312 7638431
   Email: jmmolina@unal.edu.co

b) From UNIVERSITY COLLEGE LONDON:

   Name: Teacher Jose Luis Torero Cullen
   Department of Civil, Geomatic & Environmental Engineering
   Telephone: 44(0)2076792756
   Email: j.torero@ucl.ac.uk

The signatories agree that, in the event of a temporary or permanent absence of any of the aforementioned members of the monitoring committee, a new person shall be appointed to perform the monitoring functions of this agreement.

EIGHTH. Statement of prior knowledge. The Parties declare that in order to describe the prior knowledge developed, “Background IP” being any intellectual property owned or controlled by a Party prior to the commencement of the Project or generated by a Party outside the scope of the Project. and that will be the basis for this Project, it is necessary to describe the flow of events involved in the development of this line of research and the products developed therein. This will be listed in an annex D of this Agreement. Nothing in this agreement shall affect the ownership of any Background IP used in the implementation of the Project.

NINETH. Intellectual Property shall mean intellectual property of any description including but not limited to all inventions, designs, information, specifications, formulae, improvements, discoveries, know-how, data, processes, methods, techniques and the intellectual property rights therein, including but not limited to, patents, copyrights, database rights, design rights (registered and unregistered), trademarks, trade names and service marks, and applications for any of the above. The Parties agree that the Intellectual Property on the Results derived from the Project referred to in this agreement will be governed by the laws in force on the matter and by what is stipulated herein, as follows:

1. Each Party shall own the Results generated by its employees, students and/or agents arising from work on the Project. Any Results which are generated jointly and for which it is impossible to segregate each Party's intellectual contribution to the creation of such Results shall be referred to as “Joint Results”.

6
Joint Results shall be jointly owned by the Parties in proportion to the respective contribution of each Party. Any Party may commercially exploit the Joint Results upon consultation and agreement with the other Party. In such circumstances, the Party which is commercially exploiting the Joint Results will pay the other Party a fair and reasonable royalty rate/revenue on the value of any products or processes commercially exploited by it which incorporate any Joint Results taking into consideration the respective financial and technical contributions of the that Party to the development of the Joint Results, the expenses incurred in securing intellectual property protection thereof and the costs of its commercial exploitation and the proportionate value of the Results in any such product or process. If required, at the conclusion of the Project, the Parties will establish in a written document the ownership percentages of the intellectual property rights of the results obtained within the framework of this agreement.

2. Each Party grants to the other a non-exclusive, non-transferable, non-sub-licensable, royalty-free licence to use its Results for academic and non-commercial research purposes.

a) The moral copyright will belong to the authors of the works created in the development of the Project, in accordance with the provisions of the law.

b) The Parties agree to establish as prior knowledge for the development of this agreement, without being limited to it, the information contained in Annex A of this agreement.

c) Each Party shall be entitled to publish articles directly arising from its solely owned Results. Prior to the publication of articles directly arising from the work of more than one Party on the Project, each Party shall endeavour to circulate proposed publications at least 30 days in advance of submission for publication. All publications shall acknowledge the funding made available for the Project by the Royal Academy of Engineering. Each Party retains the right to request (such request not to be unreasonably refused) the delay of a publication in order to seek Intellectual Property protection for Results generated in the course of the Project if publication would reasonably prejudice such protection. Such delay shall not exceed 3 months, unless mutually agreed between the relevant Parties. Notification of the requirement for delay in submission for publication must be received by the publishing Party within thirty (30) days after the receipt of the material by the other Party/Parties, failing which the publishing Party shall be free to assume that the other Party/Parties has no objection to the proposed publication.

TENTH. Protection: If some of the Results of the Project were susceptible to protection by some of the modalities of Intellectual Property, the Parties will discuss a protection strategy, which may contain at least: protection mechanisms, scope of protection, distribution of expenses, transfer schemes, responsible and others. However, any of the Parties may carry out directly or through proxies, with the prior consent of the other parties, the pertinent procedures. Neither Party may initiate a protection, transfer, negotiation or similar procedure of Results belonging to another Party without prior written authorization from the other.

ELEVENTH. Confidentiality: The Parties agree that any information of a confidential nature that is exchanged between them, as well as that which they develop jointly during the execution of the project, will be kept confidential, reserved or secret and may not be fully or partially disclosed or revealed, in any known medium or by know, according to the following conditions:

a. The Party receiving the information will keep it confidential and will refrain from disclosing it to third parties, for their own benefit or that of others, without the prior written consent of the issuing party.

b. The obligation of confidentiality will be extended to all those developments or findings that occur as a result of the use of the information exchanged in the project.
c. The receiving Party will be responsible for ensuring that its dependents are subject to the limitations established in the preceding paragraphs. By virtue of the foregoing, the Parties and their employees, contractors and / or dependents are prohibited from transferring or supplying to third parties, in any capacity and by any means or procedure, information obtained from the other parties in the development of the Project.

d. The Parties are obliged to disclose the information in question, it is presented in a clause exclusively to employees, contractors and / or dependents who must know it for the development of their activities within the Project and under the obligation of confidentiality. Likewise, the Parties will reveal to these persons only the part of the information that they must necessarily know for the execution of their activities within the Project.

e. The Parties undertake to adopt all reasonable security measures, in accordance with the nature of the information, to guarantee the secrecy and confidentiality of this.

f. The obligation of confidentiality is excluded when the receiving party has evidence - and thus expresses it - that it is previously aware of the information received, that it is aware that this information is in the public domain, that it has been disclosed to it by a third party, or that it has not It requires confidentiality nor has it committed itself in this regard with the Parties.

FIRST PARAGRAPH: If there is any doubt about the confidentiality, reserve or secrecy of any information provided by one of the Parties, it will be treated as such until the issuing party states otherwise in writing.

SECOND PARAGRAPH: The violation of any duty of confidentiality that assists the Parties is considered as a cause of serious breach of the agreement.

THIRD PARAGRAPH: The obligations stipulated in this clause govern the relations between the Parties in the pre-contractual, contractual and post-contractual stages and will be in effect for as long as the information remains secret, confidential or reserved.

TWELFTH. USE OF BRANDS, LOGOS, INSIGNIA AND / OR TRADEMARK NAMES AND STATEMENTS ON THE MEDIA OR SOCIAL NETWORKS: The celebration of this agreement does not confer on any of the Parties any right over the brands, logos, insignia and / or commercial names owned by The other PARTIES, who sign this agreement, consequently, each of the Parties will submit to the approval of the other PARTIES, prior to their exposure to the public or audiences - this must be recorded in writing - any advertising, promotional, signaling material or for commercial or marketing purposes and in general, any information in which the trademarks, logos, insignia and / or trade names of any of the Parties appear; Likewise, the Parties are prohibited from providing information that relates or affects the reputation or positioning of the brands, logos, insignia and / or trade names of the other PARTIES to the media or to the general public, via social networks or by any other means without prior agreement.

Failure to comply with these obligations is just cause to terminate this contract, with the payment of compensation for all damages caused to the affected PARTY.

THIRTEENTH. Exclusion of employment relationship. From the execution of this agreement, the existence of any type of additional employment relationship between students, professors, researchers and personnel of each of the Parties will not be derived from the other Parties; Each one will be in charge of giving orders to its staff and paying for their services.

FOURTEENTH. Applicable law. This agreement will be governed, interpreted and executed in full in
accordance with the laws of the Colombia.

**FIFTEENTH.** Dispute resolution. For all events that give rise to differences regarding the interpretation or execution, or any others that arise between the Parties due to this agreement or any of its clauses, the Parties agree to try to resolve them directly through the respective instances in each institution and from be necessary through alternative dispute resolution mechanisms such as conciliation or transaction, within a term of one (1) calendar month from the receipt of a written statement made by one party to the other, containing their willingness to attend to any mechanism of alternative dispute resolution statements; manifestation where the facts or situations that cause disagreement should be listed.

**SIXTEENTH.** Causes of termination: This agreement will be terminated in any of the following events:
- Expiration of the term of duration stipulated in the fourth clause.
- Due to total or partial breach of any of the obligations of the Parties.
- By mutual agreement of the Parties stated in writing and with justified cause no less than thirty (30) days prior to the termination date.
- In the other cases provided for in the Law.
- When (i) one of the Parties, (ii) its shareholders, associates or partners who directly or indirectly have 25% or more of the capital stock, contribution or participation (iii) their legal representatives, tax auditors, external auditors and / or members of the board of directors or (iv) their employees; have been: (a) convicted or are linked to investigations or criminal proceedings for the commission of malicious crimes related to money laundering (art. 345 Penal Code) or financing of terrorism (art. 323 Penal Code), (b) are object of commercial or financial blockade due to their activities, (c) they are included in national or international lists related to operations or activities related to money laundering or terrorist financing issues according to the reports from lists of official, binding sources or not for Colombia or (e) there is public information regarding such persons that legally and reputationally impacts the other party. The party that incurs in any of the above circumstances, once required by the affected party, may demonstrate within a maximum period of fifteen (30) calendar days that it corrected, eliminated or distorted the existence of the situation or the conviction. If it is not possible to demonstrate within the established period that the cause has been rectified, eliminated or that it did not exist, the contract will be terminated, which will be communicated immediately and the same will be settled in the state in which it is found. (if applicable), the party that incurred in the cause being obliged to compensate the damages caused to the other party.
- In matters not regulated by this agreement, it will be terminated for the other causes established in the Law.
- Due to the termination of the TSP2021_100311Financing Agreement between The Royal Academy of Engineering (RAEng) and the National University of Colombia.

**FIRST PARAGRAPH:** If when operating the unilateral termination or by mutual agreement referred to in this clause, specific tasks, programs, projects, or activities are pending in charge of the renouncing party, they will continue to be developed until their completion, unless otherwise stipulated or because the RAEng so decides.
SEVENTEENTH. Annexes. The following annexed documents are an integral part of this agreement:
- Proposal presented to the RAEng. – Annex A
- Contract No. TSP2021_100311 between the Royal Academy of Engineering and the National University of Colombia and all its annexes – Annex B.
- Payment Schedule – Annex C
- The Contribution- in Kind-Annex D
- Banking information Form-Annex E
- Statement of prior knowledge. – Annex F

EIGHTEENTH. MODIFICATION. This agreement may be modified by mutual written agreement of both institutions, at the initiative of either of the two parties

NINTEENTH. NO EXISTENCE OF THE SOLIDARITY REGIME. There is no solidarity regime between the parties that sign this agreement, because each one is responsible for the obligations established therein.

MODIFICATION. This agreement may be modified by mutual written agreement of both institutions, at the initiative of either of the two parties

TWENTIETH. A copy of this Agreement shall be signed in both English and Spanish. In the event of a conflict between the English version and Spanish version of this Agreement, the English version shall take precedence.

TWENTIETH-ONE. Improvement and execution. This agreement is perfected with the signature of the Parties and replaces any previous written agreement.

As a sign of acceptance, it is signed in the cities and dates specified below:

**BY THE NATIONAL UNIVERSITY OF COLOMBIA**

City: Bogotá, D.C, Colombia  
Date: 24/08/2021  
Mrs. DOLLY MONTOYA CASTAÑO  
Rector of the National University of Colombia

**UNIVERSITY COLLEGE LONDON (UCL)**

City: London  
Date: 16.02.2022  
Mr. G David Price  
UCL Vice-Provost (Research)