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Editorial

Researching and Innovating from the 13+ Institute for Engineering Research and Innovation

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Nowadays, the changes caused by globalization, the digital revolution, and the concept of *environmental sustainability*, among others, have created an imperative need to strengthen society's socioeconomic, political, cultural, and environmental structure. The vehicle for transformation is the so-called *society of knowledge*, by means of research, innovation, and information and communication technologies. The challenge for higher education is to join efforts towards creating said society of knowledge among its different actors (university, industry, and state). Thus, the 13+ Institute for Engineering Research and Innovation [*Instituto de Investigación e Innovación en Ingeniería I3+*] of Universidad Distrital Francisco José de Caldas was created by means of Agreement 013 of August 16th, 2018, issued by the Higher University Council, and is characterized by being an executive academic unit attached to the Center for Research and Scientific Development that is inclusive and participatory regarding the University's research groups and master's and doctoral programs.

The Organization for Economic Cooperation and Development (OECD) indicates that developing countries must promote improvement policies regarding social, economic, and environmental welfare. In order to achieve this transformation, the 13+ Institute has been working in projects aimed at the transformation of research, innovation, and development in different fields of knowledge with local, national, and international companies in the public and private sectors. These projects seek to generate ideas, knowledge transfer, and innovative solutions. Education programs have been developed to foster the students' interest in engineering and other fields, which are aimed at the acquisition of knowledge and skills for the development of their professional careers.

Editorial

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Adopting a new perspective on innovation implies changing the way in which we understand and manage business innovation. From the 13+ Institute, we foster an industry-focused culture of research and innovation, where ideas and creativity are valued and encouraged, thus creating new development paths for the economy and society. With the support of the National Competitiveness Commission (CNC) created by the National Government in 2006, which issued guidelines for establishing a vision of competitiveness in Colombia, which were projected for 2032 within the framework of the CTI 2022-2031 national policy. This policy constitutes a strategy to transform Colombia into one of the three leading Latin American countries regarding science, technology, and innovation (STI), aiming for the country to invest 1 % of its gross domestic product (GDP) in research, development and innovation as of 2031. This initiative is aligned with the document titled *CONPES 4069 Política Nacional de Ciencia, Tecnología e Innovación 2022–2031* [2022-2031 National Science, Technology, and Innovation Policy], which defines the public policy guidelines that seek to stimulate private investment in STI, supporting the country's research and innovation institutes.

Research and innovation have the potential to transform and improve society. For the 13+ Institute, our mission is focused on improving our bonds with society via the creation and provision of solutions to specific issues which improve communities' quality of life, as well as on the education and training of human talent and the strengthening of curricula and high-quality accreditation processes.

At the 13+ Institute, we work on research by means of multiple disciplines and areas of knowledge, which requires an interdisciplinary perspective and integration, with the purpose of addressing complex issues. To achieve integration and the convergence of disciplines, synergy between researchers is important, which allows generating innovative solutions. This, in addition to self-reflection about research practices and new work strategies.

The University and the 13+ Institute contribute to the research and innovation system for the country's development by providing doctoral education to the faculty and improving the quality of research and its teaching within the classroom. The faculty is updated regarding the latest trends in their fields of study, demonstrating capabilities for the development of research projects that are innovative and can be applied to the reality of Colombia.

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