



Third meeting of the
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and Information and
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**INNOVATION FOR DEVELOPMENT: THE KEY TO A TRANSFORMATIVE
RECOVERY IN LATIN AMERICA AND THE CARIBBEAN**

MAIN MESSAGES



UNITED NATIONS



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INNOVATION FOR DEVELOPMENT: THE KEY TO A TRANSFORMATIVE RECOVERY IN LATIN AMERICA AND THE CARIBBEAN

MAIN MESSAGES

Science, innovation and new technologies are undeniably crucial for the development of the economy and society: they have become fundamental tools for transformation of productive structures, rational use of natural resources, health care, food, education and other social needs.

However, Latin America and the Caribbean is lagging considerably in terms of the resources allocated to science, technology and innovation. Although there has been significant progress with the public institutional framework to support these areas in recent years, either by establishing thematic ministries or by strengthening specialized institutions, science, technology and innovation remain largely absent in productive and social development policies or in countries' budgets. Indeed, within national priorities, basic science—essentially that of universities and research centres—continues to predominate over applied science and experimental development, which are led by the private sector. Moreover, the range of policy instruments to support science, technology and innovation appears incomplete and insufficient to significantly boost these areas at the regional level.

At present, Latin American and Caribbean efforts in science, technology and innovation do not appear sufficiently aligned with capacity-building and responses to crucial challenges at the national level. In fact, the widespread use of demand-driven competitive funds is based on the notion that researchers are best suited to identify areas of work in science and technology and that businesses are best positioned to do so in the case of innovation. This has had several consequences: (i) projects with meagre funding, low socioeconomic impact and limited market reach; (ii) a large number of projects without a strategic focus, which hampers building of innovation-intensive capacities; (iii) prioritization of short-term projects, dependent on political cycles, which do not address strategic thematic areas; and (iv) weak local capacities to address priority challenges.

In an increasingly complex world, science, technology and innovation cannot be viewed in isolation from governments' and societies' other areas of concern. Therefore, a sizeable portion of the resources assigned to these areas should be focused on areas of knowledge that are related to countries' challenges. In view of this situation, there has been ever greater conviction of the crucial role of public policy in supporting science, technology and innovation. Many countries, and especially advanced economies, have thus begun to revive industrial policy with a focus on complex, comprehensive and capable national innovation systems, which have made it possible to mobilize productive, technical and knowledge capacities to address key development challenges. In other words, priority is given to support for research—mainly applied research—that enables resolution of specific challenges, without neglecting the development of more generic scientific capacities to expand the frontiers of knowledge. This approach calls for coordination between various stakeholders (government, academia, the private sector and civil society) and new institutional arrangements must be established for coordination and for capacity-building in formulation and management of policy.

The challenges posed by the coronavirus disease (COVID-19) pandemic have prompted several countries to adopt more ambitious, integrated and long-term strategies. The current situation has made it clear that these processes need to be constantly reviewed, not only in terms of the thematic areas addressed by researchers and innovators, but also in terms of the effectiveness of available instruments and whether new ones must be established.

In Latin America and the Caribbean, for example, the pandemic has led to a re-evaluation of strategic alternatives regarding the supply of medicines and medical devices. Strengthening of national and regional health industry capacities has therefore been identified as a priority, as reflected by the unanimous adoption of the *Plan for self-sufficiency in health matters in Latin America and the Caribbean: Lines of action and proposals*¹ by the countries of the Community of Latin American and Caribbean States (CELAC). This requires enormous efforts, because of the characteristics of the sector, including: (i) significant gaps between local capacities and the technological frontier in industries where science, technology and innovation play a central role; (ii) a need for consistent long-term efforts to enable accumulation of scientific, technological and productive knowledge; (iii) a need to align multiple stakeholders and institutions, and a variety of goals; and (iv) significant economies of scale in production.

Despite the complexity of the health industry, the right conditions can be created to strengthen the sector at the national and regional levels. Key measures include: (i) increasing government contributions to research and development activities; (ii) extending the scale and deadlines of projects to be implemented; (iii) strengthening public, university and private centres of excellence; (iv) fostering connections between stakeholders in the health industry innovation system; (v) improving product and process patent, registration and approval processes; and (vi) monitoring procurement in the health industry innovation process.

In this context, regional cooperation is key. This requires some of the following measures: (i) developing innovation programmes that aim to resolve shared challenges through regional transnational consortiums; (ii) fostering integration in the field of training and exchanges of students and researchers; (iii) extending and formalizing mutual recognition of drug registration; (iv) complementing installed capacity in the countries with a regional clinical trials platform designed to consolidate common and recognized regulatory standards; (v) regulating procurement strategies by creating a base of suppliers that guarantee compliance with quality and safety standards and timely delivery at reasonable prices; and (vi) strengthening regional mechanisms for joint procurement of medicines and medical devices in health emergencies.

The COVID-19 pandemic has also accelerated and mainstreamed the use of digital technologies. Therefore, the need for policies to boost and organize digital activities has become more urgent and critical. Whether a new path of development can be followed, and whether progress can be made towards a transformative recovery, will depend largely on events in the digital sphere and how changes are incorporated into the economy and society.

Governance structures for digital development must address the update of legal frameworks in areas such as telecommunications, competition, employment, taxation and trade; moreover, new regulations and institutions need to be established in areas such as cybersecurity, personal data protection, data flows, ethics and artificial intelligence. It is also vital to prioritize public and private actions that strengthen and drive digital ecosystems, so that the complexities, benefits and challenges of the new, fast-growing technological alternatives can be understood and leveraged: fifth generation mobile networks (5G), the Internet of Things (IoT), cloud computing, artificial intelligence (AI), big data analytics and robotics.

The cross-border nature of the digital economy, and of the related actors and flows, calls for alignment with international progress and guidelines in several areas, while considering national situations and outlooks.

¹ See Economic Commission for Latin America and the Caribbean (ECLAC), *Plan for self-sufficiency in health matters in Latin America and the Caribbean: Lines of action and proposals* (LC/TS.2021/115), Santiago, 2021.

Therefore, there is an increasingly pressing need for regional coordination of various legal and regulatory aspects, relating to trade, taxation, data flows, data protection and cybersecurity.

Digital governance should aim to build welfare states, driven by a competitive and sustainable production model based on new technologies. To achieve this, further progress is required on the creation of an inclusive digital society, digital transformation of the productive sector, strengthening of digital trust and security (cybersecurity), consolidation of fair and competitive digital markets, and establishment of regional cooperation mechanisms in the digital sphere. In relation to regional cooperation, an institutional framework must be built that facilitates discussion of policies, rules and standards; promotes links and convergence among subregional blocs and drives a regional digital market that enables a regional strategy to be formulated to increase trade, expand the digital economy and strengthen competitiveness through regulatory consistency, infrastructure integration, development of digital platforms, ease of cross-border data flows and trade facilitation measures. One noteworthy initiative in this respect is the Digital Agenda for Latin America and the Caribbean (eLAC), the goal of which is development of the digital ecosystem through a process of integration and regional cooperation, by strengthening digital policies that promote knowledge, inclusion and equity, innovation and environmental sustainability.

The 2030 Agenda for Sustainable Development and the Sustainable Development Goals highlight the urgent need to move towards new models of growth and development, with more sustainable and inclusive patterns of consumption and production. In fact, because of a growing awareness of climate change, companies are adopting environmental impact reduction strategies, especially in response to consumer demand for products and services that are environmentally responsible in different respects. Local communities are also lobbying for respect for the natural ecosystems in which some companies operate. These trends, coupled with stricter environmental regulations and standards, are driving a variety of business and industry strategies.

Industry efforts and strategies to achieve sustainable production have shifted from a focus on end-of-process or end-of-life-cycle solutions for products to strategies that seek to prevent undesirable impacts by modifying products or production processes, as well as the inputs required for production.

Meeting sustainable production goals entails an integrated approach to policy formulation. This has been made clear by government initiatives in the areas of science, technology and innovation, as operational instruments have evolved from technological and sectoral funds, venture capital stimulus packages and cooperation among universities and companies to sustainable public procurement and various types of collaborative networks. The environmental dimension also adds complexity to these initiatives. Undoubtedly, to meet these demands and move towards a greener growth model, an integrated and cross-cutting framework for action must be pursued, accompanied by collaboration and dialogue among government, the private sector and civil society.

In Latin America and the Caribbean, initiatives have been launched to foster sustainable production and consumption; measures have also been implemented to establish environmentally sound policies on technological development and dissemination. Many of these initiatives to support technology dissemination and capacity-building are being carried out within national centres and programmes for clean production.

Lastly, in a world where economies of scale and scope are increasingly important in determining capacity to close technological gaps, it is vital to promote bilateral and multilateral cooperation actions to build, develop and consolidate scientific and technological capabilities, productive innovation processes, and institutional interlinkages. Therefore, implementation of regional projects is key to identifying potential areas of interest for cooperation in science, technology and innovation, which can, in turn, generate

significant synergies with other existing regional cooperation spaces in Latin America and the Caribbean, or incorporated into such projects to strengthen scientific and technological development. Strengthening links and work between the countries of a region with more than 650 million inhabitants has the potential not only to open up business opportunities, with a considerable impact on creation of high-quality jobs, but also to create a seedbed of new knowledge and foster new technologies and science that meet the needs and demands of a society that is in transition to development.