# DOMINICAN REPUBLIC

## ENIA: a roadmap for creating a knowledge economy based on AI

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**Key takeaways**

- The *National Artificial Intelligence Strategy* (ENIA) of the Dominican Republic is a driver of national development – facilitating the creation of AI infrastructure that works in the public interest, and promoting business growth to generate more opportunities and prosperity for citizens.
- The ENIA covers everything from human talent and technology development to regional collaboration and ethical governance of AI, ensuring effective and responsible implementation.
- The Dominican Republic is emerging as a leader in the adoption and development of AI in Latin America and the Caribbean, promoting regional collaboration and establishing ethical standards.

The Dominican Republic, aware of the rapid advance of AI, is implementing comprehensive policies, fostering human capital, building robust infrastructure and leveraging regional collaborations. A key component of this is the ENIA, launched in October 2023 as part of the National Innovation Policy 2030 (ENIA, 2023). The strategy aims to integrate AI ethically and responsibly across various sectors, thus promoting the sustainable development in the country.

The ENIA has been developed and implemented by the Government Office of Information and Communication Technologies (OGTIC), in collaboration with the Cabinet of Innovation and Digital Development (OGTIC, 2023). Additionally, the Ministry of Higher Education, Science and Technology has played a significant role in advancing AI initiatives – such as partnering with OGTIC and academic institutions to launch the country's first Master's degree in Applied Artificial Intelligence (Dominican Today, 2024).

### Infrastructure: the backbone

Building a strong technological infrastructure is essential for the future of the AI ecosystem in the Dominican Republic. In Latin America, the digital divide remains a significant challenge; in 2022, over 64% of the rural population lacked internet access, and 40% of urban

households in the lowest income quintile were without connectivity (CAF, 2024). Tackling this 'digital divide' by improving access to high-quality internet connections and increasing the number of local data centres is crucial to ensuring connectivity, secure data storage and digital sovereignty.

The Dominican Republic is therefore working to create a regional supercomputer centre, in collaboration with the Development Bank of Latin America and the Caribbean, and to enhance its national data centre. The vision is to contribute to an interconnected network of data centres across Latin America that supports the exponential growth of AI and other emerging technologies, driving innovation and technological development in the region (CAF 2023).

Another key initiative set out in the ENIA is a data hub, which will host decentralized digital architecture to enable collaborative development of AI models – ensuring integrity and secure access to large volumes of data. The strategy also includes a plan to develop a national standard for AI systems, based on open-source code, with the goal of strengthening the country's cybersecurity.

The ENIA underscores the importance of fostering industry–university collaboration to drive the national development of AI. This approach promotes research and innovation, leveraging the expertise and resources of academic institutions to advance the country's AI capabilities. Furthermore, the Ministry of Higher Education, Science and Technology plays a pivotal role – establishing research centres, developing new academic programmes and promoting innovation and entrepreneurship, all of which contribute to the development of AI in the Dominican Republic.

**Human talent: the heart of the system**

Human talent is at the core of digital transformation. In Latin America, there is a significant shortage of professionals skilled in advanced technologies – a gap that is expected to widen in the coming years, according to the World Economic Forum. This limits the potential for innovation and affects the competitiveness of industries. However, this gap also represents an opportunity to train and develop technological talent, especially in the Dominican Republic.

The World Economic Forum's "Future of Jobs Report 2023" projects that nearly a quarter of jobs globally (23%) are expected to change by 2027, with 69 million new roles created and 83 million eliminated, resulting in a net decrease of 14 million jobs, or 2% of current employment (WEF, 2023). This transformation is driven by technological advancements, including artificial intelligence (AI), and the green transition. The report highlights that AI adoption is anticipated to lead to significant job creation, particularly in roles such as AI and machine learning specialists, sustainability experts, and business intelligence analysts. However, it also notes that certain positions, especially those involving routine tasks, may face displacement due to automation. To navigate this evolving landscape, the report emphasizes the importance of reskilling and upskilling initiatives to prepare the workforce for emerging opportunities.

The Global Entrepreneurship Monitor report highlights the region's entrepreneurial potential alongside the growing demand for software developers globally, particularly in the United States – underscoring the economic value of investing in the development of technological talent (GEM, 2023). In addition, according to a report by PwC, in Latin America, the projected contribution of AI to the GDP is estimated at 5.4% by 2030, which equates to approximately US$500 billion. (PwC, 2017).

To seize this opportunity, the Dominican Republic has launched programmes such as INCUBO and INTRO. INCUBO (OGTIC, 2023), the first AI-focused digital incubator in the country, aims to transform university students into tech leaders by equipping them with advanced skills and preparing them to drive innovation in key sectors. INTRO, on the other hand, focuses on training young people in the fields of science, technology, engineering and mathematics, providing not only technical skills but also the soft skills necessary to thrive in the workforce.

These programmes aim to graduate 10,000 new developers annually, promising a significant impact on the country's economic and technological development. They are part of the #YoSoyFuturoRD human talent and innovation hub, which brings together various stakeholders to develop the workforce and strengthen the AI ecosystem. Investing in the development of human talent in this way will not only meet the country's technological needs but also allow for the export of talent and services globally, thus positioning the Dominican Republic as a key player in the regional and global digital economy.

The ENIA also promotes the inclusion of AI in the education system – from primary to higher education – through educational modules, teacher training and the creation of specialized academic programmes. These programmes include a Bachelor's degree in Data Science and a Master's degree in Artificial Intelligence at the Autonomous University of Santo Domingo, and a Master's degree in Applied Artificial Intelligence at the Caribbean University, developed in partnership with Tecnológico de Monterrey.

Additionally, AI certification programmes aim to strengthen diversity and inclusion in this field – with a particular focus on women. For these programmes, the Dominican government is providing funding and strategic direction, while universities and private sector organizations lead on design and implementation. Likewise, upskilling and reskilling programmes like the DocencIA diploma are preparing the workforce for future challenges.

**Governance: the brain of the system**
Governance is essential for guiding and coordinating efforts to build a robust and sustainable AI ecosystem – particularly in the form of 'glocal' governance, which combines local policies with international standards. One of the most significant challenges for governance is developing a strong and autonomous tech industry. In most countries of Latin America, investment in research and development (R&D) is low, averaging less than 0.67 percent of GDP. In the case of the Dominican Republic, this figure is even lower: less than 0.03 percent of GDP.

To aid the governance of AI development, the ENIA includes the creation of frameworks such

as 'regulatory sandboxes', which enable supervised but live testing of AI innovations. It also promotes an ethical code for AI, to ensure that development is responsible and ethical. The strategy seeks to avoid a 'techno-fetishist' perspective, addressing risks associated with AI, including its impact on global conflicts and the labour market, and the potential for 'digital colonization'.

Additionally, the Dominican Republic advocates for a 'multi-regulatory convergence' approach, recognizing that developing countries need to build their own AI industry rather than simply regulating one that does not yet exist. The ENIA aims to foster the development of local capacity and the creation of homegrown models and algorithms – to avoid technological dependency and ensure that AI reflects the identities and cultures of the region.

This approach has significant implications for the science sector. By prioritizing local talent and knowledge, the Dominican Republic can reduce its reliance on external resources and technologies, empowering local scientists and researchers, and promoting their active involvement in shaping the future of AI. The approach also increases the likelihood that AI applications are relevant and beneficial to the Dominican population – as they are developed with a deep understanding of local needs and challenges.

Furthermore, this strategy promotes innovation and creativity. By encouraging the development of unique AI models and algorithms, it fosters a culture of discovery and exploration, allowing the Dominican Republic to contribute original solutions to the global AI landscape. This gives the Dominican Republic greater control over its technological trajectory – reducing dependence on foreign entities, promoting self-determination in the development of AI, and enabling it to participate actively in the global market and drive its own economic growth.

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**The TAINA project: an example of an AI system adapted to Latin America**

The TAINA project, an AI system under development to modernize and digitize public services, shows how new technology can be adapted to local needs. The project has the potential to enhance various public services in the Dominican Republic including:

- healthcare, where it can improve diagnostics, personalize treatment plans and accelerate medical research;
- education, where it can be used to develop personalized learning platforms, automate assessments, and provide intelligent tutoring systems;
- transportation, where it can manage traffic flow, optimize routes and improve road safety;
- the justice sector, where it has the potential to automate judicial processes, analyse legal data, and assist in legal decision-making – and can also be used to detect threats, analyse patterns, and prevent crime;
- other government services, where it can improve efficiency and accessibility, such as in applying for permits or licenses.

To ensure that TAINA truly represents Dominican identity, Project CiudadanIA, an AI-based citizen-interaction system, is being implemented to collect data in Dominican Spanish. This is crucial for addressing the risks of algorithmic bias and ensuring that AI systems do not perpetuate social or cultural inequalities.

## Regional networks: the nervous system

Regional networks function like a nervous system that connects and coordinates the different components of the AI ecosystem, ensuring effective integration and collaboration at the regional level. This kind of a shared vision and joint action are essential for AI to flourish in Latin America.

LATAM 4.0 is the core of Latin America's regional vision. Focused on developing a robust Latin American AI ecosystem by capitalizing on human talent and promoting R&D, this platform aims to build the world's first regional AI project. A concrete step toward this vision is an agreement between the Dominican Republic and Honduras to establish the first #YoSoyFuturo hubs in the region, with the goal of training 1,000 young people in AI (500 in each country), in collaboration with the AI company GENIA and the Latin American Artificial Intelligence Academy (GENIA, 2023)(SENACIT, 2023).

At the Latin American and Caribbean Ministerial Summit on Artificial Intelligence, ColombIA, all countries in the region were invited to join LATAM 4.0 (ColombIA, 2024) – in order to leverage economies of scale, reduce costs and share technologies to address common needs. This regional approach will strengthen competitiveness, attract international investments and collaborations, and position Latin America as a leader in innovation and technology. At the summit, the Dominican Republic was one of 17 countries to adopt the Cartagena Declaration for AI governance in Latin America (Martinez, 2023).

Additionally, a project to form a Regional Artificial Intelligence Council for Latin America and the Caribbean us taking place in collaboration with UNESCO and the Development Bank of Latin America and the Caribbean, (UNESCO, 2022). Using UNESCO's Readiness Assessment Methodology, the Dominican Republic has evaluated its AI ecosystem, which has invited other countries in the region to do the same – as part of advancing towards a joint regional strategy (UNESCO, 2023).

Other developments include regional data repositories and interoperability frameworks, to facilitate collaboration and shared access to data and technological resources – now and in the future. Such joint action is particularly important in the anticipated transition toward artificial general intelligence and superintelligence. By investing in R&D for AI at a regional level, Latin America can ensure it not only participates but also leads the development of ethical and safe AI technologies, thus preparing the region for future challenges and opportunities.

## Financing: the drive for development

Various funding mechanisms support the development of human talent and technological infrastructure – key factors for the ENIA's success. Specifically, the National Innovation Policy 2030 sets a goal for increasing investment in R&D to 1 percent of GDP by 2030, including through an Innovation Support Fund (InnovaciónRD, 2022).

This fund's main objective will be providing finance and support to innovative projects across various sectors of the economy – to promote research, technological development and knowledge transfer, and generate impact and added value for Dominican society. Supported

projects will include AI solutions to improve the efficiency of public services, and those to enhance sustainability and efficiency in the agricultural sector.

**Learning from international indexes**

Two global indexes give some insight into the Dominican Republic's progress with regard to artificial intelligence R&D. Firstly, the Global Index on Responsible AI provides an overview of how nations are addressing the ethical, social and regulatory challenges posed by AI technologies – highlighting the need for comprehensive policies and a human-centred approach (GIRAI, 2024). Following the launch of the ENIA, the index gave the Dominican Republic a score of 23.18 out of 100. This places the country in 50th place out of 138 countries evaluated, in first place out of the nine Caribbean countries indexed, and in 6th place out of Latin American countries.

Secondly, the AI Investment Potential Index evaluates 193 countries on their readiness and potential for AI investment (AFD, 2024). This index considers multiple factors, including digital infrastructure, human capital, macroeconomic conditions and social inclusion, to provide a comprehensive analysis of AI investment opportunities globally. With a score of 67.69, the Dominican Republic ranks third for this index in the Americas, surpassed only by Canada and the United States. This reflects the country's growing capacity and potential to attract AI-driven investments.

As recognized by the two global indexes on national AI standards, the Dominican Republic's *National Artificial Intelligence Strategy* represents a bold step toward digital transformation and sustainable development. Through a comprehensive and collaborative approach, ENIA seeks to harness the potential of AI to improve the lives of Dominicans and position the country as a regional leader in innovation and technology. The ENIA aims not only to drive economic growth and enhance quality of life, but also to establish the country as a model for the ethical and responsible adoption of AI.

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