AI for the Good of All

Brazilian Artificial Intelligence Plan

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AI for the Good of All

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National Council for Science and Technology (CCT)

President of the Republic

Luiz Inácio Lula da Silva

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Presentation

It is with great satisfaction that I present the final version of the Brazilian Artificial Intelligence Plan (PBIA), a strategic initiative of the National Council for Science and Technology (CCT), of the federal government, under the coordination of the Ministry of Science, Technology and Innovation (MCTI), with the support of the Center for Strategic Studies and Management (CGEE), to position Brazil at the forefront of the development and responsible application of artificial intelligence.

Throughout the world, we are witnessing a real race to guarantee dominance of artificial intelligence technologies. As a sovereign nation committed to the well-being of our population, we cannot remain on the sidelines of this revolution. PBIA is born from the conviction that Brazil not only must participate in this journey but can and should do so in a way that reflects our particular values, priorities, and challenges.

Artificial intelligence represents a powerful set of technologies with the potential to transform practically all sectors of society. It requires robust computing infrastructure and has the capacity to present innovative solutions for the most diverse challenges, from the everyday to the most complex national problems.

Our vision is clear: we want Brazil to be a global model of efficiency and innovation in the sustainable use of artificial intelligence, including in the public sector. We do not simply want to import solutions; we want to develop them here, by Brazilians and for Brazilians, considering our social, cultural, and economic particularities.

To realize this vision, PBIA foresees investments of R$ 23 billion until 2028. These resources, coming from various sources such as credit, public funds, and private investment counterpart, will be directed to strengthen our technological infrastructure, qualify professionals, and foster research and innovation in AI in the Country.

One of the most emblematic projects of this effort is the creation of our sovereign cloud, a national data storage infrastructure. This initiative is fundamental to protecting strategic information of national public institutions, guaranteeing our digital sovereignty.

PBIA is not just a technological plan. Our goal is to ensure that artificial intelligence improves the lives of the Brazilian people, promoting social inclusion and offering tangible solutions in priority areas such as health and education.

We know that, like all disruptive innovation, AI brings both opportunities and challenges. We are attentive to the potential impacts on the job market, and therefore, the Plan places special emphasis on professional qualification and the generation of new employment opportunities. We want not only to prepare our citizens for the jobs of the future but also to create an entire productive ecosystem around these technologies.

The strength of PBIA lies in its capacity to connect technological innovation with the resolution of concrete national problems. PBIA represents not only a governmental commitment but a partnership that involves all Brazilian society. Researchers, entrepreneurs, workers, students, and citizens from all regions of the Country are called to contribute to this collective construction of a future where technology serves the common good.

We are facing a historic opportunity. With the Brazilian Artificial Intelligence Plan, we take a decisive step to ensure that Brazil is not just a passive consumer of technologies developed elsewhere, but an active protagonist in defining the directions of global artificial intelligence, always with a view to the needs and aspirations of our people.

Together, we will make artificial intelligence a powerful ally in building a more just, prosperous, and technologically sovereign Brazil.

Luciana Santos
Minister of Science, Technology and Innovation

Introduction[1]

Artificial intelligence (AI) emerges as one of the greatest transformative forces of our era, representing not an isolated revolution, but the continuity of previous waves associated with computerization and connection through the Internet, among other advances that continue to deeply reshape our society, economy, and governmental structures. AI, especially with recent advances in generative AI, emerges as a new wave of innovation in this context, following the initial waves of computing and the internet.

Just as in previous waves, the current moment of accelerated technological transformation offers unique opportunities for developing countries to speed up their progress, reducing the lag behind developed nations. Brazil, in particular, exhibits characteristics that position it favorably in this context. After several reforms, the Brazilian economy recovered its stability and accumulated significant international reserves. The recent approval of tax reform and the new fiscal regime has paved the way for a new horizon of investments for the Country, which is being reinforced by the new industrial policy and the de-contingency of scientific and technological development funds (FNDCT and Funttel).

With a young population that is very agile in adopting new technologies, the Country has also made great progress in recent decades in expanding its teaching and research network and structuring its innovation ecosystem. The Country also counts on a set of diverse national databases in different and important areas, such as health, agriculture, and the financial system, among others. It also presents structuring initiatives, such as the Applied Research Centers (CPA) (Brazil, 2024) in artificial intelligence, the Ministry of Science, Technology and Innovation (MCTI)/Brazilian Company for Industrial Research and Innovation (Embrapii) Network, and the launch of calls for proposals to stimulate the development of innovative solutions for various governmental and private sectors. Brazil's predominantly clean energy matrix (EPE, 2023) also represents an important competitive advantage, enabling the development of more sustainable AI solutions that align with global emission reduction objectives.

However, to fully leverage its potential, the Country faces major challenges. For example, it is necessary to substantially increase investments in research and development (R&D), implement cutting-edge digital and computational infrastructure, and ensure the interoperability, availability, and access to data. In practice, the challenge of implementing computational and data infrastructure means installing high-performance supercomputers dedicated to AI, expanding next-generation data centers, and strengthening high-speed communication networks.

In parallel, it is essential to intensify broad training in AI, with the development of qualification programs at all levels, from basic education to postgraduate studies, in addition to the requalification of the existing workforce, in order to adapt to the new demands and opportunities of the labor market, creating a qualified workforce both for the development and for the effective and critical use of AI technologies. The training of a qualified technical body and the creation of compatible job positions are fundamental for the retention of talent and the technological sovereignty of the Country. It is also essential to foster AI ecosystems in the various Brazilian regions that promote collaboration between companies, universities, and the government to boost innovation and the development of artificial intelligence appropriate to Brazilian characteristics.

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[1] The present publication is a reference document for the Brazilian Artificial Intelligence Plan. Annexes 1 and 2, which contain the immediate impact and structuring actions, will be regularly updated. Information resulting from updates to the Plan can be followed via the MCTI website.

Such challenges, typical of a nation whose path to development remains incomplete, are multifaceted and demand innovative solutions. In the health sector, for instance, although the Country has a broad, decentralized, and universal system, there are important challenges to be overcome to achieve quality healthcare for all, including for isolated communities where reaching a health facility can take days. In this scenario, AI holds transformative potential for the good.

Brazil is also one of the largest food producers in the world (FAO, 2023), but it faces significant challenges, such as the need to reduce waste in the transport and commercialization stages and support small farmers who lack access to information and technologies that could increase their productivity. AI can play an important role in this scenario, contributing from providing personalized technical assistance on best agricultural practices, based on soil and climate data, to optimizing input and distribution chains.

In short, when talking about the need for an AI appropriate to Brazilian characteristics, we must take into account that the Country's challenges have their peculiarities. The availability of technological and material resources is limited, and both technical capacity and AI literacy are very diverse, conforming to a unique, but highly relevant, scenario for the solution of these challenges and problems using AI.
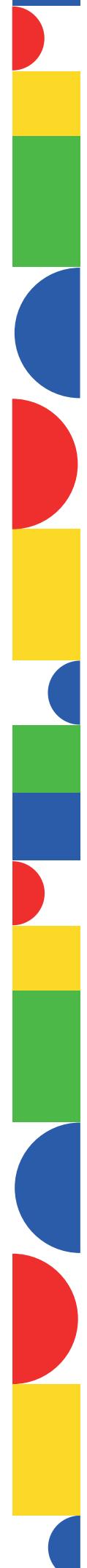
Although AI is not a panacea, it proves to be a strong ally in the development of sustainable and integrated alternatives to the environment to improve people's lives. Pilot solutions are emerging in new research centers, companies, startups, and universities. Brazil, with its centers of excellence, highly qualified researchers and entrepreneurs, is moving in the right direction to face this broad set of challenges with viable and efficient solutions, but needs to accelerate its journey, through efforts to overcome major bottlenecks.

It was based on these premises that the formulation of a Brazilian Artificial Intelligence Plan (PBIA) was requested from the National Council for Science and Technology (CCT) on March 7, 2024. At the time, the President of the Republic emphasized the need to develop and adopt a technology that would improve the lives of Brazilian citizens and be guided by ethical and non-discriminatory principles, serving as an example to the world. PBIA is, thus, a plan geared towards overcoming major national challenges in specific areas with the potential for a positive impact on the well-being of Brazilians. The Plan is inspired by international experiences, adapting them to the Brazilian reality in order to take advantage of the Country's comparative advantages, such as its clean energy matrix, cutting-edge research capacity, and technological qualification in strategic sectors such as agriculture, health, and the environment.

To realize the desired changes, PBIA seeks to:

- improve the lives of Brazilians through innovations in artificial intelligence aimed at improving national productive capacity and social well-being;

- position Brazil at the advanced technological frontier with computational infrastructure to drive cutting-edge research, technological development, and innovations in AI;

- develop Large Language Models (LLM) for artificial intelligence in Portuguese, based on national data; and

- strengthen Brazil's global leadership, promoting technological development in artificial intelligence with sovereignty and international sharing of capabilities.

To achieve these objectives, the Plan emphasizes the need for significant and long-term investments in R&D, with the creation of mechanisms to encourage greater private sector participation. It fosters

collaboration between academia and industry, in addition to supporting the establishment of a regulatory framework conducive to responsible innovation. In this way, PBIA aligns with other regulatory initiatives underway in the legislative, judiciary, and executive spheres.

The Brazilian Artificial Intelligence Plan was prepared under the strategic guidance of the CCT, which played a central role in the conception and direction of the Plan.[2] Over four months, various activities were carried out for its elaboration, such as working meetings, thematic workshops, and bilateral meetings with public and private institutions, aiming to identify and design concrete AI application initiatives in priority areas, with the objective of addressing specific bottlenecks relevant to the Brazilian population.

The result of this process was a proposed Brazilian Artificial Intelligence Plan that represents an ambitious and necessary commitment to the future of Brazil. PBIA aims to develop and implement AI technologies that boost the Country's economic and technological progress, simultaneously meeting the real needs of the Brazilian population and respecting our diversity and cultural values. PBIA proposes the creation of a responsible innovative ecosystem, where technological development and ethical and social considerations walk side by side. With this approach, Brazil positions itself at the forefront of AI development, serving as a global example of the use of this technology for the benefit of all society. The following chapters detail how this vision translates into concrete actions to realize the transformative potential of an AI for the Good of All.

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[2] In accordance with MCTI Ordinance No. 8,251/2024 (Brasil, 2024a), the elaboration of PBIA was coordinated by a Working Group led by the Executive Secretariat (Sexec/MCTI), including representatives from the MCTI Secretariat of Science and Technology for Digital Transformation (Setad/MCTI), the CCT, and a special advisor to the Minister of State for Science, Technology and Innovation. It counted on the participation of representatives from the following bodies and institutions: Secretariat of Articulation and Monitoring of the Civil House of the Presidency of the Republic (SAM/CC/PR), Ministry of Development, Industry, Trade and Services (MDIC), Ministry of Management and Innovation in Public Services (MGI), Ministry of Justice and Public Security (MJSP), Ministry of Foreign Affairs (MRE), CGEE, National Confederation of Industry (CNI), and academics.

1. The context of artificial intelligence in the world and in Brazil

1.1. What is artificial intelligence?

For the purposes of this Plan, artificial intelligence is defined as the set of models, algorithms, techniques, and methodologies that can be implemented as computational systems that produce results such as predictions, classifications, recommendations, and decisions, based on learning processes relying on large volumes of data[3], with the potential to influence physical and virtual environments. We can highlight the following typical characteristics of these artificial intelligence-based systems:

- Operate with different degrees of autonomy to achieve explicitly or implicitly defined objectives;

- Use inputs (e.g., data) generated by machines (e.g., sensors, cameras) and/or humans to perceive and analyze environments;

- Build abstract models from these inputs through a variety of training processes and techniques automated to different degrees;

- Apply these models to different scenarios, to perform inferences, generate information (e.g., predictions, recommendations), execute actions, or support decision-making;

- Can be specialized in tasks of varying degrees of specificity, from peculiar activities to general-purpose systems, capable of performing a range of jobs; and

- Include subtypes such as generative AI, capable of generating, significantly modifying, or synthesizing various types of content, including text, images, audio, video, and software code, often in a way indistinguishable from human-produced content.

This combination of data analysis and modeling with high computational power grants AI an unprecedented transformative potential, capable of transforming various sectors of society and the economy.

1.2. The transformative potential of artificial intelligence

Artificial intelligence represents one of the most transformative technological forces of our time, with the potential to reshape practically every sector of human activity. The emergence of generative AI, capable of generating significant, new, or improved content from existing data, further expands this transformative potential. AI is already reshaping entire sectors, from education to entertainment, requiring a continuous re-evaluation of public policies to ensure its use remains beneficial and ethical.

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[3]   It is common to be based on large volumes of data, but this is not a necessary condition for AI.

The release of multiple generative AI models for public use starting in 2022 marked a crucial moment in the evolution of artificial intelligence. Such models attracted millions of users in just a few days, demonstrating the broad interest and accessibility of generative AI to the general public. If, on the one hand, the content generation capabilities demonstrated by these models led to a perception that the world is facing a new "technological revolution," on the other hand, artificial intelligence is not in fact a new phenomenon. Its roots are in the initial development of computing in the 1940s and 1950s (Figure 1), consolidating in the 1980s-1990s, and developing in an accelerated manner since the beginning of the 21st century.

Beginnings
1940s: Alan Turing proposes the idea of "machines that can think" and introduces the theoretical concept of the Turing Machine.
1950: Turing publishes *"Computing Machinery and Intelligence,"* proposing the Turing Test.
1956: Dartmouth Conference coins the term "artificial intelligence."
1960s-1970s: Development of early AI programs, such as ELIZA.

Consolidation
1971: Launch of the Intel 4004 microprocessor, marking a significant advance in processing capacity.
1980s: Advances in expert systems and neural networks.
1997: IBM's Deep Blue defeats world chess champion Garry Kasparov. 1990s-2000s: Development of machine learning algorithms, increased computational power, and access to large amounts of data.
2000s: Development of machine learning algorithms, increased computational power, and access to large amounts of data.

Modern Era
2006: NVIDIA launches the CUDA platform, allowing the use of GPUs for deep learning.
2010: Beginning of significant advances in *deep learning*.
2012: AlexNet neural network wins the ImageNet competition using GPUs.
2016: Google launches the Tensor *Processing Unit* (TPU); AlphaGo defeats Lee Sedol in Go.
2022: OpenAI launches ChatGPT, broadening public access to AI 2025: Launch of the Chinese AI model that revolutionized the market with reduced operating costs and lower use of computational resources compared to the competitors.

Figure 1 – From Beginnings to the Modern Era: A Timeline of Artificial Intelligence
Source: Own elaboration

Understanding the dynamics of a technological revolution is essential for emerging countries like Brazil to identify and seize the windows of opportunity that arise, allowing them to accelerate their development processes and reduce the gap with leading countries. These windows change as technologies evolve, requiring agile and flexible strategies. In this transition, two windows open simultaneously: the rejuvenation of mature sectors, driven by the rapid absorption of new technologies in their initial phases, and the emergence of new technological applications, which frequently create new industrial sectors in the process (Perez, 2001). To take advantage of them, developing countries need to strengthen their technological, human, and managerial capabilities, in addition to adopting new organizational models and establishing strategic partnerships.

However, the process of disruptive transformation also brings multiple impacts of AI on society. Firstly, AI has the potential to profoundly transform democracy and information integrity. It can both strengthen democratic processes through more accurate data analysis that helps improve the delivery of public services and goods, but it can also represent risks to democracy, requiring constant vigilance against the spread of misinformation that affects citizens' perception of social reality.

The human-machine relationship and associated ethical issues are also critical, as they redefine interactions and attributions, while raising questions about justice, transparency, autonomy, responsibility, support for ethical issues, and human values, among others (Meira, 2024). For example, if artificial intelligence models are capable of making autonomous decisions and implement them, who is legally responsible for mistaken decisions? The accelerated development of AI demands agile regulatory frameworks that ensure its ethical and safe use, protecting organizations and final consumers without inhibiting innovation.

Similarly, in education and work, AI offers opportunities for personalization of teaching and continuous learning, but challenges traditional employment structures, requiring adaptation and reskilling (ABC, 2023). Understanding the dynamics of technological revolutions is also important when dealing with the effects of new technologies on jobs and occupations.

Historical trajectory suggests a pattern: after an initial period of apprehension, societies tend to adapt to new technologies, often resulting in comprehensive economic and social benefits. This adaptation process involves the reconfiguration of the labor market, the development of new skills, and the creation of previously non-existent economic sectors. It is important to note, however, that the transition is rarely uniform or free of challenges. This process requires a proactive approach in the formulation of public policies that facilitate the transition, promote the requalification of the workforce, and stimulate innovation in emerging sectors. Such policies are essential for countries and regions to seize the technological windows of opportunity opened during periods of transformation, maximizing socio-economic benefits and minimizing the negative impacts of these changes.

Another critical aspect is the impact of AI on the environment and environmental sustainability. The effects are dual and sometimes contradictory. On the one hand, AI offers tools for environmental monitoring, optimization of resource use in production processes, and efficiency of energy systems. On the other hand, AI models raise concerns about energy and water resource consumption. Another factor that must be considered when evaluating the impact of AI on the environment is the potential environmental damage generated by computer manufacturing, as well as the disposal of electronic waste from obsolete machines.

Technological sovereignty and international cooperation emerge as central themes, with countries seeking strategic autonomy while recognizing the need for global collaboration. In this context, issues related to data security and the models built from them gain a new dimension, requiring new frameworks for the protection of intellectual property and individual privacy. AI has profound implications for human rights and inclusion, potentially expanding opportunities or exacerbating inequalities (Lamb, 2024). AI systems that exhibit racial biases evidence the risks of perpetuating historical injustices. Language models with gender bias also threaten to reinforce harmful stereotypes. Furthermore, unequal access to infrastructure and resources for AI development can deepen the technological gap between nations, widening global disparities. These issues, added to the challenges of cybersecurity, demand innovative and collaborative approaches to ensure a more equitable and resilient digital future.

These critical impacts of AI illustrate the scope and depth of its influence on contemporary society. They highlight the need for a holistic and strategic approach to the development and implementation of AI, one that considers not only its potential benefits, but also the ethical, social, environmental, and economic challenges it presents. Given these impacts, it is essential to develop a robust governance and ethical regulation framework for AI. This includes the creation of regulatory frameworks that promote responsible innovation, guarantee the protection of individual and collective rights, and establish ethical standards for the development and use of AI systems, which, at the same time, must satisfy increasingly complex requirements for security and robustness. As we advance in the era of AI, it is imperative that governments, companies, and civil society work together to shape a future where AI is truly a force for the common good.

1.3. Windows of opportunity for Brazil

Leveraging the global momentum of AI integration in various spheres of human activity, Brazil presents itself as fertile ground for the appropriation, adoption, and adaptation of these technologies. The Country has unique advantages that can be explored to boost technological development, and to promote inclusive economic growth and improve the quality of life of the population. Thus, windows of opportunity open for Brazil to stand out and advance in the field of artificial intelligence, especially in the following areas:

- **Sustainable AI with a clean energy matrix:** Brazil's predominantly renewable energy matrix offers a unique competitive advantage for the development of sustainable AI. The Country can position itself as a leader in low-environmental impact *data centers* and AI infrastructure, attracting investment and promoting innovations in green computing and energy efficiency in AI;

- **AI for the environment and biodiversity:** Brazil's vast environmental diversity, combined with preservation challenges, creates unique opportunities for AI applications in environmental monitoring and sustainable resource management;

- **AI in public health and the SUS:** The Unified Health System (SUS), one of the largest public health systems in the world, offers an opportunity for large-scale AI applications. The vast volume of health data generated by SUS can drive innovative solutions to improve diagnoses, optimize resources, predict disease outbreaks, and personalize treatments;

- **AI in agriculture:** As one of the main global agricultural producers, the use of AI can bring benefits throughout Brazil's food production value chain;

- **AI for social inclusion and reduction of inequalities:** AI's potential to improve access to essential services and create economic opportunities can help address persistent social challenges;

- **Development of AI models in Portuguese:** Brazil has a favorable condition to lead the development of AI in Portuguese, benefiting a global community;

- **Development of AI solutions for local problems:** The ability to create solutions adapted to Brazil's specific needs can generate relevant innovations for other developing countries;

- **Application of AI in public administration:** Brazil's continental size and the vast amount of governmental data offer fertile ground for optimizing processes and improving public services through AI;

- **AI research and development:** The existence of AI research centers and the collaboration between academia, government, and industry create an environment conducive to technological advances; and

- **Training and retention of AI talent:** The expanding job market and growing interest in AI offer opportunities.

Despite the propensity of the Brazilian population to adopt new technologies, it is important to question this characteristic (Cetic.br, 2023a). As highlighted in the report by the Brazilian Academy of Sciences (ABC) (ABC, 2023), the national context is critical: only a small portion of the population has access to quality education. This directly impacts the Country's ability to develop and implement substantial

technological advances. For Brazil to effectively benefit from AI, it is essential to develop a set of policies that not only promotes technological innovation but also addresses existing educational and socio-economic inequalities. This includes investments in technological education, digital infrastructure development, and policies that broaden and democratize access to AI knowledge across Brazilian society.

1.4. Economic aspects of AI and challenges for application in Brazilian industry

Artificial intelligence presents great potential to boost various sectors of the economy. The AI value chain is complex and comprehensive. It encompasses hardware, data infrastructure, and applications.

Within hardware, it includes the production of specialized chips, processors, data centers, and network equipment. Data infrastructure comprises solutions for data storage, processing, and management (including aspects of curation, security, and privacy), as well as cloud computing platforms and developer tools. A fundamental component is software, which comprises everything from development environments, libraries, runtime systems, model and algorithm implementations, to what we generically call the software stack, and which is used for application development. High-speed transmission networks (physical and wireless) are also included in the value chain. Applications, in turn, cover a vast range of AI-based solutions for businesses and end consumers.

Generative AI, a rapidly expanding segment, has its own value chain that overlaps and complements the broader AI chain. This includes optimized hardware for model training and inference, cloud platforms that provide elastic and large-scale computational resources, foundational models that serve as a base for specific applications, model hubs, and MLOps tools (which in this scenario are already being called LMOps) for management, optimization, auditing, tracking, and monitoring, in addition to final applications and specialized services.

A structured and robust AI ecosystem creates spillovers that stimulate innovations and developments in various technological segments and economic sectors. The economic impact of AI is already significant and is expected to grow exponentially.

Despite public investment efforts, industry currently takes the lead in AI research, which was traditionally the domain of academia (Eastwood, 2023). This is because industry possesses greater computational power and access to large volumes of data, which enables the hiring of talent, the development of market-leading AI benchmarks, and continued investment in research. However, it is important to note that academia still plays a fundamental role in AI research, providing an environment with the freedom to explore and innovate.

Although the expressive number of AI development and use initiatives by Brazilian companies, the context is particularly challenging. While Brazil ranks among the top twenty countries in some AI rankings, mainly due to academic production, the Country faces a critical shortage of qualified professionals and an expressive brain drain. The disparity between academic production and applied innovation capacity is evident, with most AI patents in Brazil based on foreign technologies. To overcome this challenge, it is essential to invest in the training and qualification of AI professionals, from the technical level to postgraduate studies. In parallel, it is necessary to promote the popularization of knowledge about AI in society, preparing the population early for the ongoing technological transformations.

AI can significantly increase efficiency in various sectors, for example, through the optimization of industrial processes, demand forecasting, and predictive maintenance in manufacturing, increased efficiency in the food distribution chain, automated analysis of medical images in health, personalization of customer experiences in retail, or support for decision-making based on historical data analysis. And this advantage is particularly promising for micro, small, and medium-sized enterprises (MSMEs). These companies frequently face productivity and competitiveness challenges compared to large corporations, due to higher fixed costs and limited economies of scale. Although AI adoption by MSMEs may be hampered by high implementation costs and limited access to credit, the potential benefits in terms of increased efficiency and competitiveness are substantial.

However, it is important to note that the adoption and impact of AI on productivity are still in initial stages. As highlighted by the OECD (OECD, 2024), AI adoption is still limited compared to other digital technologies, concentrating in certain sectors and large companies. Barriers such as the shortage of computational power and technical skills still need to be overcome. On the one hand, while micro-level evidence shows substantial productivity gains, on the other hand, macroeconomic impacts are still uncertain and depend on several factors Among these factors, the crucial role of the public sector stands out in creating an environment conducive to large-scale productivity gains, through the reduction of bureaucracy, improvement of the efficiency of governmental services, and implementation of policies that facilitate the adoption and diffusion of innovative technologies like AI across the economy.

AI application in the public sector itself represents a significant opportunity to improve the efficiency and quality of government services. Globally, governments are exploring the use of AI to optimize administrative processes, enhance data-driven decision-making, and offer more personalized services to citizens. From fraud detection systems to *chatbots* for public service, AI has the potential to radically transform how governments operate and interact with the population. AI can also aid in the formulation of more effective public policies, analyzing large volumes of data to identify patterns and trends that guide strategic decisions.

In the Brazilian context, the public sector has already begun to take important steps in AI adoption, although there is still a vast potential to be explored. According to the results of the Survey on the use of information and communication technologies in the Brazilian public sector (ICT Electronic Government, 2023), 30% of federal and state public agencies have already made use of at least one AI technology, with concentration in the legislative, judiciary, and public prosecutor's offices (Cetic.br, 2023b). The most common applications involve text mining, prediction, and data analysis, in addition to process automation. Executive governments are those that have made the least use of AI tools in their services and processes, which indicates a potential yet to be explored.

It is crucial to address issues of inequality through education, training, and redistribution, in addition to developing agile governance that keeps pace with rapid technological advancement. In all sectors, it is fundamental to ensure that AI implementation is done ethically and transparently, respecting citizens' privacy, preventing the perpetuation of biases, and responsibly utilizing the vast state databases. These measures are fundamental to ensure that the potential of AI is leveraged in an inclusive and sustainable manner, benefiting the entire population and paving the way for an "AI for the Good of All."

2. What is an AI for the Good of All?

Brazil is at a unique moment in its technological trajectory, with the opportunity to take advantage of development windows opened by the transformative impact of artificial intelligence. As seen, the Country possesses unique characteristics that position it favorably in this scenario. However, for the transformative potential of AI to be fully realized and benefit all Brazilian society, it is fundamental that its development and application be guided by ethical and inclusive principles. In this sense, the Brazilian Artificial Intelligence Plan (PBIA) proposes a human-centered approach, aligned with national interests and the defense of the right to development, and oriented towards overcoming the Country's social, environmental, and economic challenges. This vision is embodied in five pillars that underpin an "AI for the Good of All":

I) *Human-centered and accessible to all, founded on respect for dignity, social rights, cultural, regional, and peoples' diversity, and the appreciation of work and workers, preventing inequality and discriminatory biases.*

An "AI for the Good of All" places the human being at the center of its development and application. AI systems must be designed to complement, expand, and enhance human capabilities, not replace them. Accessibility is fundamental, ensuring that the benefits of AI are not limited only to citizens of developed countries or privileged groups, but reach citizens of all countries and all strata of society, including marginalized and underrepresented populations.

This approach requires a constant focus on digital inclusion and the reduction of inequalities in access to technology and in relation to the development of skills and competencies necessary for a responsible and safe use of AI, that is, so that people know how to adequately assess the risks and benefits. Furthermore, AI applications must respect and promote cultural, regional, and ethnic diversity, avoiding discriminatory biases in their algorithms and applications. Beyond regulatory measures, one way to ensure these values is to promote the active participation of diverse groups in the conception, development, deployment, and governance of AI systems, ensuring that different perspectives and needs are considered.

II) *Oriented towards overcoming social, environmental, and economic challenges, increasing well-being and contributing to the achievement of the Sustainable Development Goals (SDGs).*

The "AI for the Good of All" must be directed towards solving concrete societal problems, contributing to the achievement of the United Nations Sustainable Development Goals (SDGs). To this end, it is possible to envision the development of AI applications in areas such as public health, quality education, poverty reduction, environmental sustainability, climate change mitigation and adaptation, or energy transition. Furthermore, it is essential that the AI chain itself be sustainable, optimizing the use of energy and water resources in its computational infrastructure and *data centers*, so that AI acts as a vector of sustainability and not as an obstacle. The development of energy-efficient AI solutions and the application of these technologies in intelligent resource management can significantly contribute to the energy transition and increased resilience to climate change.

In the Brazilian context, AI can be particularly valuable in facing challenges such as the monitoring and preservation of the Amazon, the optimization of urban transport systems, the improvement of efficiency in agriculture, the expansion and consolidation of the Unified Health System (SUS), the promotion of public security, or the enhancement of the delivery of various public services. It is crucial that these

applications are developed with a deep understanding of local contexts and in collaboration with the affected communities, ensuring that the solutions are truly effective and sustainable.

III) *Founded on the right to development and national sovereignty, promoting technological autonomy and economic competitiveness.*

An "AI for the Good of All" must promote the Country's technological and economic development, strengthening its autonomy and competitiveness in the global scenario. This implies significant investments in AI research and development, training local talent, and creating a robust innovation ecosystem.

National sovereignty in the context of AI involves the development of proprietary capabilities along the AI production and innovation chain, as well as in strategic application areas, such as health, education, security, environment, industry, or public management. It is important that the Country has control over its data and critical technologies, reducing dependence on foreign solutions and taking precautions against potential technological curtailment measures. At the same time, a balance must be sought between the protection of national interests and participation in mutually beneficial international collaborations. On the one hand, such collaborations must contribute to the acceleration of the Country's technological and scientific progress towards the mastery of AI. On the other hand, it is fundamental that these collaborations foster the scientific and technological advancement of developing countries, with special attention to the nations of Africa and Latin America, thus promoting a more equitable distribution of knowledge, access to critical infrastructure, and opportunities that open up in the era of artificial intelligence.

IV) *Transparent, traceable, and responsible, intrinsically guaranteeing data privacy and sovereignty, cybersecurity, consumer protection, intellectual property, copyrights, and related rights.*

Transparency is fundamental to building and maintaining public trust in AI. AI systems must be developed and operated in a way that their decisions and processes can be explained and understood by experts and laypeople. Promoting transparency requires, for example, the clear disclosure of how data is collected, processed, and used, or the criteria used in automated decision-making.

Traceability ensures that AI actions and decisions can be audited, allowing for the identification and correction of errors or biases, as well as the attribution of responsibility. It is important to emphasize the technical difficulty associated with the attribution of responsibility for results generated by AI-based systems, since, in theory, any of the components of the AI value chain may bear responsibility for the result. In this sense, responsibility implies clear accountability mechanisms, allowing the identification of who is responsible for the decisions made by AI systems. This is particularly crucial in high-risk applications, such as in the areas of autonomous mobility, health, or public security. Furthermore, the protection of individual privacy, intellectual and copyright property over texts, images, or audios, for example, and data sovereignty must be a priority, with the implementation of robust cybersecurity measures. The intellectual property related to AI itself must also be protected in a way that encourages innovation, but not at the expense of the public interest.

More broadly, these and other principles have been grouped into what is called Responsible AI, which can be defined as the set of processes, methods, and techniques for designing, developing, using, and deploying AI systems that are ethical, trustworthy, and beneficial to society. It aims to create AI solutions that are fair, reliable, and transparent, respecting human values.

Typical principles of Responsible AI include:

- *Fairness:* ensuring that AI systems do not treat people unfairly, especially underrepresented groups;

- *Transparency:* ensuring that AI systems are transparent and explainable, meaning the results generated by them are interpretable by humans;

- *Reliability:* ensuring that AI systems are robust and secure, in the sense that they are not susceptible to malicious actions, for example;

- *Privacy and security:* ensuring that AI systems protect the privacy and security of users, in a way that prevents any harm to users and society; and

- *Inclusion:* ensuring that AI systems are inclusive and benefit everyone.

V) *Globally cooperative on fair and mutually beneficial bases, inducing the progress of humanity, the protection of information integrity, and the defense of democracy.*

An "AI for the Good of All" recognizes that the challenges and opportunities presented by technology are global in nature. Therefore, it is essential to promote international cooperation in AI research, development, and governance. This cooperation must be based on principles of equity and mutual benefit, respecting the sovereignty and development priorities of each nation.

Global collaboration is crucial to addressing issues such as AI regulation, data sharing (and the taxation of data flows), technological standardization, and the mitigation of global risks. At the same time, it is important that this cooperation strengthens, and does not harm, information integrity, democracy, and the national security of the participating countries.

The "AI for the Good of All" must contribute to the progress of humanity as a whole, promoting the exchange of knowledge and best practices between nations to overcome global and national challenges. Achieving this objective requires efforts to reduce the technological disparity between developed and developing countries, ensuring that the benefits of AI are distributed more equitably.

3. Action plan

3.1. Premises and objective

The Brazilian Artificial Intelligence Plan is based on ten fundamental premises that guide its structuring and implementation:

- **Focus on social well-being:** *How can AI improve people's lives?* Prioritizing actions that contribute to social inclusion and the reduction of inequalities, ensuring that the benefits of AI reach all Brazilian society;

- **Generation of national capacities and qualifications:** investing in infrastructure, research, development, innovation, and training of Brazilian AI talent;

- **Technological and data sovereignty:** developing national capabilities in AI to guarantee Brazil's technological autonomy and economic competitiveness;

- **Strategic alignment with governmental policies, with emphasis on the New Brazil Industry (NIB):** integrating AI into governmental policies, leveraging the use of AI as a transversal tool to boost competitiveness and innovation in priority industrial sectors and facilitate the achievement of the six missions;

- **Environmental sustainability and alignment with the Ecological Transition Plan (PTE):** aligning the development and implementation of AI with Brazil's environmental commitments and the Ecological Transition Plan;

- **Valuation of diversity:** ensuring that Brazilian ethnic and cultural diversity is reflected in the development of AI models and solutions, avoiding prejudices and discrimination;

- **International cooperation:** seeking international partnerships on fair and mutually beneficial bases for the advancement of AI;

- **Ethics and responsibility in the use of AI:** prioritizing the ethical and responsible development and use of AI, respecting individual rights, privacy, and democratic values, in compliance with the General Personal Data Protection Law (LGPD);

- **Participatory governance:** promoting collaboration between the State, academia, the private sector, and civil society in the design, execution, monitoring, and evaluation of PBIA; and

- **Flexibility and adaptability:** keeping PBIA flexible for adjustments according to the evolution of technology, national needs, and results of implemented actions.

These premises underpin the central objective of PBIA:

To promote the development, availability, and use of artificial intelligence in Brazil, oriented towards solving major national, social, economic, environmental, and cultural challenges, in a way that guarantees security and individual and collective rights, social inclusion, the defense of democracy, the integrity of information, the protection of work and workers, national sovereignty, and the sustainable economic development of the nation.

3.2. Investment Amount

To achieve this objective, PBIA proposes a dual approach, combining immediate impact actions, oriented towards specific challenges with the potential to bring significant benefits to the Brazilian population in the short term, with structuring actions over the medium to long term, which create capacities and qualifications to fill gaps for the sustainable development of AI in Brazil.

Table 2 details the R$ 23.03 billion in investments foreseen in the 2024 to 2028 period by PBIA for immediate impact actions (1.9% of total investments) and each of the five structuring axes (see section 4.4. for detail): (1) Infrastructure and AI Development (25.2%); (2) Diffusion, Training, and Qualification in AI (5.0%); (3) AI for Improving Public Services (7.6%); (3) AI for Business Innovation (59.9%); and (5) Support for the Regulatory and Governance Process of AI (0.4%). With 98% of the planned investments, the structuring actions – for the consolidation and creation of capacities and qualifications in AI – form the core of PBIA.

Table 1 – PBIA Investments

	Investments 2024-28
Immediate impact actions	BRL 435.04 million
Infrastructure and AI Development	BRL 5.79 billion
Diffusion, Training, and Qualification in AI	BRL 1.15 billion
AI for Improving Public Services	BRL 1.76 billion
AI for Business Innovation	BRL 13.79 billion
Support for the Regulatory and Governance Process of AI	BRL 103.25 million
Total	**BRL 23.03 billion**

Source: Own elaboration

3.3. Immediate impact actions

The first group of PBIA actions is aimed at solving specific challenges with the potential to bring significant benefits to the Brazilian population. Immediate impact actions are initiatives underway or to be launched in the very short term to solve well-defined problems, using already developed artificial intelligence tools (including commercial models adapted to the Brazilian use context) or those in an advanced stage of development. Focused on priority areas, these actions aim to demonstrate the transformative potential of AI through concrete and measurable improvements in citizens' lives, with results often already verifiable within 12 months.

By addressing urgent and relevant problems, these actions test immediate solutions, while also establishing learning bases for future expansions and replications of successful initiatives. To ensure their effectiveness and alignment with PBIA objectives, immediate impact actions are characterized by the following essential attributes:

- **Focus on specific problems:** each action addresses a well-defined and delimited problem, avoiding an overly broad scope. The focus on specific bottlenecks in a priority area allows for a more effective and targeted approach, increasing the chances of success and facilitating the measurement of results;

- **Use of developed technologies and existing databases:** the AI tools used are already at an advanced stage of development or are proprietary technologies commercially available in the market, adapted to the Brazilian context. The actions seek to make efficient use of available databases, considering the quality and suitability of the data, as well as aspects such as privacy, security, and mitigation of potential biases;

- **Quick, measurable, and significant results:** the actions have the potential to generate tangible and measurable benefits in a relatively short period, ideally within one year;

- **Clear impact goals and metrics:** precise indicators are established to monitor progress and evaluate the results of the action, such as output, outcome, and social impact metrics, allowing for an objective assessment of the initiative's success;

- **Potential for expansion, replication, and sustainability:** the actions are designed with potential for scalability and replication in other contexts. Furthermore, the financial sustainability of the initiative in the long term is considered, including possibilities for future self-sustenance; and

- **Engagement and direct benefit of the target population:** the actions bring a direct positive impact on the lives of citizens affected by the problem in question, and whenever possible directly involve the target population in the process, collecting feedback and ensuring that the solution meets their real needs.

The immediate impact actions of PBIA cover a wide range of critical sectors for Brazil's development and well-being. These actions demonstrate the transformative potential of AI in various sectors, seeking innovative solutions to pressing challenges in Brazilian society. The actions are divided into nine areas:

- Health
- Agriculture and livestock
- Environment, climate, and sustainability
- Industry, trade, and services
- Education
- Social development
- Public services management
- Work and employment
- Defense, public, and cybersecurity

The immediate impact actions are detailed in Annex 1 and are divided into 2 types: (1) Impact actions – New; and (2) Impact actions supported by Finep (ongoing).

3.4. Structuring actions

Structuring actions are fundamental to guaranteeing national sovereignty and technological autonomy, competitiveness, sustainable innovation, and the responsible and ethical adoption of AI in the Country. Although the most significant results of these actions are expected in the medium and long term, there are concrete actions planned to be initiated in the short term. The structuring actions will be periodically reviewed and adjusted, considering the progress achieved, the evolution of technology and the global context, and the lessons learned throughout the process. These actions are characterized by:

- **Sustainability and energy efficiency:** they prioritize the development of AI infrastructures and solutions that maximize the use of renewable energy and Brazil's natural resources, aiming to establish an environmentally responsible and energy-efficient AI ecosystem, leveraging the Country's clean energy matrix;

- **Alignment and integration with the New Brazil Industry (NIB):** they leverage the use of AI as a transversal tool to boost competitiveness and innovation in the NIB's priority industrial sectors, facilitate the achievement of its six missions, and maximize its impacts for the well-being of the Brazilian population;

- **Generation of national capabilities:** they aim to develop and strengthen national capabilities in the AI production chain, promoting technological autonomy, local innovation, and the Country's competitiveness in this strategic field;

- **Varied technological maturity:** they cover initiatives at different stages of technological maturity, from basic and applied research actions to the development of innovative solutions and their transition to application and use;

- **Medium to long-term impact:** although they may have intermediate deliverables, the most significant results of the structuring actions are expected in the medium and long term, contributing to the lasting construction of the AI ecosystem in the Country;

- **Mobilization of multiple actors and disciplines:** they involve the articulation and collaboration between various actors in the AI ecosystem, including the government, academia, the private sector, the third sector, and civil society, recognizing the multisectoral and multidisciplinary nature of the challenges and opportunities related to AI.

The structuring actions are organized into five fundamental axes. These axes were conceived to comprehensively and integrally address the challenges and opportunities related to the development and adoption of artificial intelligence in Brazil. Each axis represents a strategic area of action, encompassing specific programs that, together, maximize the benefits of AI in the public sector and the economy, while mitigating risks. The five fundamental axes are:

01) **Infrastructure and AI Development:** This axis focuses on essential investments in digital and computational infrastructure to sustain the development and implementation of AI systems, with particular emphasis on the promotion of sustainable artificial intelligence systems. It covers the expansion of national computational capacity, the improvement of communication networks, and the structuring of robust and accessible databases. Furthermore, the axis contemplates the development of specialized hardware for AI and the creation of test and experimentation environments optimized for energy efficiency. It also seeks to foster the development of AI models and tools adapted to the Brazilian context, leveraging the large available public databases;

02) **Diffusion, Training, and Qualification in AI:** This axis covers the training and qualification of professionals at all levels, from basic education to postgraduate studies, as well as qualification and requalification, aiming to create a qualified AI workforce. It also includes initiatives for public awareness about the impacts and potential of AI, as well as inclusion and digital accessibility through AI;

03) **AI for Improving Public Services:** This axis focuses on the development and implementation of AI solutions to address specific bottlenecks in public administration and enhance governmental efficiency, improving the quality of services and processes;

04) **AI for Business Innovation:** This axis aims to promote broad access to the use of AI in the private sector, encouraging the adoption of AI solutions by companies of all sizes and sectors. It seeks to support, consolidate, and expand the sectors that participate in the AI production chain, including the Information and Communication Technologies (ICT) and microelectronics industries;

05) **Support for the Regulatory and Governance Process of AI:** This axis seeks to contribute to the consolidation of an AI governance framework in Brazil that promotes innovation, ensures the right to development, protects human rights, information integrity, copyrights and related rights, work and workers, and positions Brazil as a reference in responsible and trustworthy AI.

Each of the five fundamental axes is presented in a format that reflects the collaborative elaboration process and the perspectives collected from various actors in the AI ecosystem in Brazil, comprising the following elements:

- **Where are we?** This section presents a concise and objective diagnosis of the current situation related to the axis in question.

- **Where do we want to get to?** In this part, an ambitious and transformative vision of the future for the axis is outlined, going beyond a simple extrapolation of the current situation.

- **What will we do?** This section details the programs and their respective structuring actions. Each action is described by the following characteristics:
    → Action definition: briefly describes what the action intends to achieve;
    → Challenge: presents the problem or need that the action aims to address;
    → Goal: establishes specific and measurable objectives with defined deadlines;

3.4.1. Axis 1: Infrastructure and AI Development

Where are we?

Brazil has a significant initial base of high-performance processing capacity for AI development. This infrastructure includes supercomputers ranked among the world's most efficient and powerful. The National High-Performance Processing System (Sinapad) provides computational infrastructure for teaching and research, with a total computational power of approximately 6.2 Pflop/s. The Country boasts centers of excellence in AI research, and the Brazilian Open Data Portal offers more than 13 thousand open databases from 264 distinct organizations (Brasil, 2025).

Brazil holds a significant competitive advantage due to its predominantly clean and renewable electricity matrix. According to data from the Energy Research Company (EPE) (EPE, 2024), the share of renewable sources in Brazil's electricity matrix reached 89.2% in 2023, a strategic differential for the development of sustainable AI. Furthermore, the Country has the potential to utilize the abundance of water in hydroelectric reservoirs for the efficient cooling of AI infrastructures.

However, the current computational infrastructure is insufficient for the development of large-scale AI models. There is a repressed demand for the use of supercomputers in AI research, and Brazil lacks a robust and integrated data infrastructure that allows for the effective utilization of AI technologies across various sectors. Moreover, there is an external technological dependence for specialized AI hardware. The predicted growth of new supercomputer and data center projects, while promising for the advancement of AI in the Country, also represents a potential challenge of overload to the national electrical system. This requires meticulous planning and significant investment in the energy efficiency of new infrastructures.

Where do we want to get to?

Brazil will become a global leader in AI infrastructure, with a national network of ultra-high-performance supercomputers. The Country will be a reference in the development of critical components for AI, significantly reducing external technological dependence. Brazil will establish itself as an international hub for AI research and development, contributing significantly to the advancement of the knowledge frontier in this area, attracting global collaborations, and sharing its infrastructure with other developing countries. The Country will become a model for sustainable AI development, utilizing its clean electricity matrix and natural resources in a strategic and responsible manner.

What will we do?

A) National AI Infrastructure Program

This program aims to improve the coverage, quality, and computational capacity of existing infrastructure in Brazil to boost cutting-edge AI research in various areas, such as health, renewable energy, and climate modeling. The proposed actions seek to address the need for investment in high-performance computational infrastructure to support AI research, development, and innovation, in addition to fostering the autonomous development of AI hardware. This infrastructure also contributes significantly to national technological sovereignty.

B) Sustainability and Renewable Energy Program for AI

This program aims to leverage Brazil's competitive advantage in its predominantly clean energy matrix to drive the sustainable development of public AI infrastructure in the Country. The proposed actions seek to address the need for investment in renewable energy infrastructure and efficient resource use to support AI research, development, and innovation in public institutions and Scientific, Technological, and Innovation Institutions (ICT). The program focuses on public infrastructures and ICT, while initiatives for sustainable infrastructure in the private sector will be addressed in Axis 4 (AI for Business Innovation). The actions position Brazil as a global leader in environmentally responsible AI, capitalizing on its abundance of renewable resources and establishing a sustainability model for other countries to follow.

C) Program for Structuring the Data and Software Ecosystem for AI

This program aims to: leverage the diversity and richness of existing national datasets, by improving these databases for AI training; and elaborate all necessary *software* layers for AI applications, through the development of a national AI *software* stack. The proposed actions seek to minimize external dependence, ensure bias reduction, and contemplate the diversity and specificities of Brazilian culture, enabling technological and data sovereignty for Brazil.

D) AI Research and Development Program

This program aims to foster and strengthen AI research and development in Brazil, creating a robust network of centers of excellence and promoting collaboration among academia, the public sector, and the private sector. The proposed actions seek to boost innovation in AI, develop solutions for national challenges, and position Brazil as a leader in AI research and application in strategic areas, including the creation of Institutes of Science and Technology in AI (INCT-AI), R&D networks in advanced cryptography, and regional high-performance computing centers.

3.4.2. Axis 2: Diffusion, training and qualification in AI

Where are we?

Brazil demonstrates growth in AI training at the higher education level, with an evolution in the number of computing and ICT courses since 2010. Between 2013 and 2022, more than 25 thousand theses and dissertations related to AI were registered in all areas of knowledge[4], with a 200% increase in annual production. However, only 15% of Brazilian graduates are in STEM (Science, Technology, Engineering, and Mathematics), below countries like Chile (25%) and Mexico (26%). Furthermore, there was a projected demand for 800,000 ICT professionals between 2021 and 2025, with an estimated deficit of 530,000 professionals (BRASSCOM, 2021).

In Elementary and Secondary Education, AI and technology education is incipient. Brazil is among the 10 worst performers in mathematics in the Program for International Student Assessment (PISA), with 68% of students lacking basic knowledge in the discipline (ABC, 2023). Regarding the popularization of AI, there are positive signs: 66% of Brazilians are excited about its use and 64% believe there are more benefits than disadvantages (Google for Startups, 2024). However, structured initiatives are lacking to educate the population about the impacts and potential of AI in daily life.

Where do we want to get to

Brazil will become an AI talent hub, recognized globally for the quality of its training at all educational levels. The Country will be a reference in AI education and popularization, especially for developing nations, with a highly engaged and critically aware population about the technology. Brazil will establish itself as a pole for attracting and retaining AI talent, reversing the "brain drain" flow.

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4   Data extracted from the Web of Science platform.

What will we do

A) AI Diffusion and Dissemination Program

This program aims to expand knowledge and interest in artificial intelligence in Brazilian society, promoting AI literacy and creating a solid foundation of understanding about AI across all segments of the population. The proposed actions seek to popularize AI, disseminate related scientific content, and create social participation platforms. The program aims to transform Brazil into a reference in AI education and popularization, especially for developing nations, fostering a highly engaged and critically aware population about the technology.

B) AI Training Program

This program aims to strengthen comprehensive training in artificial intelligence (AI) in Brazil, ranging from basic education to postgraduate studies. The proposed actions include the training of students and qualification of teachers in basic education, the integration of AI into technical-professional education, the expansion and modernization of undergraduate courses, and the granting of scholarships for undergraduate, postgraduate, doctoral, and sandwich doctoral programs abroad. In this way, the program seeks to expand and qualify the contingent of specialized AI professionals, promoting continuous education across all educational stages.

C) AI Qualification, Skills, and Requalification Program

This program aims to train and qualify professionals in AI to meet the growing market demand, ranging from technical training to advanced specialization. The proposed actions seek to develop a qualified AI workforce, promoting employment for workers, as well as innovation and the competitiveness of the Brazilian economy.

3.4.3. Axis 3: AI for improving public service

Where are we?

In Brazil, more than 30% of federal and state agencies already make use of at least one AI technology. The predominant use of AI tools in the public sector includes text mining, prediction and data analysis, and process automation (Cetic.br, 2023b). As an example, there is the MCTI Intelligent Platform, under development, to support public policies in Brazilian cities. The two calls for "AI Solutions for the Public Sector" launched by the Funding Authority for Studies and Projects (Finep), in partnership with the Ministry of Management and Innovation in Public Services (MGI), MCTI, and the National School of Public Administration (Enap), should also be cited.

Despite the advances in the use and promotion of AI solutions, this potential is still underutilized in the Brazilian public sector. The current scenario requires structured and consistent actions by the federal government to accelerate the responsible adoption of AI, with a view to improving management, promoting innovation in the public sector, and transforming the State in a people-oriented manner. To enable the potential of AI in the public sector, the development of a national innovation ecosystem

focused on data and AI is essential, one that integrates teaching and research institutions, *startups*, technology companies, and governmental agencies. The need for robust digital public infrastructures must also be highlighted, ones that allow the secure and timely sharing of data, ensuring the sovereignty and data protection of people and organizations. And the continuous qualification of public servants, so that they understand and become the catalysts of this AI adoption journey, integrating the AI innovation ecosystem with the opportunities and needs of the public sector.

Where do we want to get to

The Country, which is already an international reference in Digital Government, will also reach this level in the strategic and ethical use of AI in public administration, developing innovative solutions that can be replicated globally. Brazil will establish itself as a leader in governmental digital transformation, reducing operational costs and significantly increasing the offer and public satisfaction with public services, with a significant impact on development and social inclusion.

What will we do

A) Federal Government AI Core (Núcleo de IA do Governo Federal)

The Federal Government Artificial Intelligence Core is a strategic initiative intended to coordinate a set of actions aimed at transforming public administration through the adoption of ethical and responsible artificial intelligence. Its main objective is to catalyze the efficient adoption of AI, through the coordination, articulation, and promotion of actions that encourage a cultural and technological change in the Brazilian public sector.

Responsibilities:

- promote collaboration and the exchange of knowledge in AI among different actors;

- accelerate the government's digital transformation; and

- monitor the use of AI in the government, improving the actions carried out.

The Core will be coordinated by the Digital Government Secretariat (SGD) and, initially, composed of representatives from the MGI, MCTI, Enap, Federal Data Processing Service (Serpro), and Social Security Technology and Information Company (Dataprev). This network collaboration allows actions to be efficient and connected, ensuring that the planning and execution of activities are carried out in an integrated manner and in accordance with the AI Core guidelines.

B) National Data Infrastructure (Infraestrutura Nacional de Dados - IND)

The National Data Infrastructure (IND) is a set of rules, policies, architectures, standards, technological tools, information assets, and human talent managed by various agencies. As such, the IND enables the governance, discovery, interoperability, access, strategic use, privacy, security, and data protection. The objective is to improve public service, empower citizens, and promote economic and social development.

C) AI Solutions for Public Services Program

This program aims to foster the development and implementation of AI solutions to address specific challenges in strategic areas of the public sector, promoting efficiency and innovation in governmental services.

3.4.4. Axis 4: AI for business innovation

Where are we?

In 2024, Brazil launched its industrial policy – the Nova Indústria Brasil (NIB) – which established six industrial[5] development missions. AI aligns directly with Mission 4, which aims at the digital transformation of industry as a means of increasing its productivity, but also acts as a catalyst for technological development in all sectors covered by the NIB.

Through the implementation of AI solutions, Brazilian companies can optimize processes, improve decision-making, and boost innovation, not only increasing industrial productivity but also contributing to significant advances in the other five missions. However, Brazil faces challenges in appropriating the benefits of the data economy and the broad adoption of AI. The Country ranks only 13th worldwide in the number of *data centers*, with 168 in operation, far behind leaders like the United States, which has over 5,000. Only 13% of Brazilian companies use AI technologies, with particular challenges in integration into traditional sectors such as agriculture and manufacturing. Investment in AI in Brazil, although growing, is still significantly lower compared to global leaders, and the Country lacks a robust AI production chain (ABES, 2024; Cetic.br, 2023c).

Despite these challenges, Brazil possesses significant competitive advantages, such as its energy matrix with 83% renewable sources and the availability of water for *data center* cooling. The Country also has an installed base of companies capable of supplying data center equipment with local production. However, these companies face tax imbalances compared to foreign competitors, especially from Southeast Asia, aggravated by recent changes in Import Tax rates and concessions of ex-tarifários (import duty exemptions).[6]

Where do we want to get to

Brazil will become a global leader in AI adoption and development for business innovation. The Country will be a reference in AI solutions for strategic sectors such as precision agriculture, Industry 4.0, and innovative financial services. Furthermore, Brazil will establish itself as a global hub for data centers, leveraging its competitive advantages and strengthening its local production chain.

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5 Note: The six NIB missions are: (1) Sustainable and digital agro-industrial chains; (2) Resilient industrial economic complex for health; (3) Sustainable infrastructure, sanitation, housing, and mobility; (4) Digital Transformation of industry; (5) Bioeconomy, decarbonization, and energy transition and security; and (6) Technologies of interest for national sovereignty and defense.

6 To face these challenges and take advantage of the opportunities, the MDIC is implementing strategic measures. These include the review of the Import Tax rate for specific products in the *data center* supply chain and the re-evaluation of the ex-tarifários applied to the sector. Additionally, the review of the Basic Production Process (Processo Produtivo Básico - PPB) for servers of enormous capacity is underway, aiming to increase the competitiveness of industries established in Brazil.

What will we do

A) AI Value Chain Promotion Program

This program aims to strengthen and expand the AI value chain in Brazil, ranging from supporting startups to developing national companies supplying foundational AI models. The actions seek to create a robust and competitive AI ecosystem, promoting innovation, internationalization, and the development of national solutions, including support for internationalization, development of national data centers, and public-private partnerships.

B) AI Program for Brazilian Industry Challenges

This program aims to boost the adoption and development of AI in the Brazilian industrial sector, promoting the digital transformation and competitiveness of the national industry. The goal is to create a robust ecosystem of AI applied to industry, contributing directly to the achievement of the New Brazil Industry (NIB) missions, but also to the development of solutions for challenges in the Brazilian industry.

3.4.5. Axis 5: Support for the regulatory and governance process of AI

Where are we?

Brazil is currently debating its AI regulatory framework, within the scope of Bill 2338/23 processing in the National Congress, and faces the challenge of, in the absence of specific law, promoting public trust, establishing standards appropriate to the Brazilian situation, and offering guidance and best practices for the ethical and responsible use of AI to the Brazilian people in general.

There is, however, a relevant normative framework to be considered for the formulation of AI governance in Brazil: rules that govern data access and sharing, promote transparency, and protect personal data. AI technologies are highly dependent on data. It is, therefore, upon this regulation that technological governance in AI is built. Significant gaps persist both in the strategic component and in the practical component of data governance specific to AI and in the parameterization of the ethical and responsible development and use of the technology.

Where do we want to get to

Brazil will become a world reference in AI regulation and governance, balancing innovation, protection of rights, and economic development. The Country will be a global leader in the formulation of international standards and norms for ethical and responsible AI. Brazil will establish itself as the main spokesperson for the Global South on AI governance issues, with its regulatory model being widely adopted by developing countries.

What will we do

A) Program to Support the Improvement of the Regulatory Framework for AI

This program aims to contribute to the consolidation of a robust and ethical regulatory framework for the development and use of AI in Brazil, promoting responsible innovation and protecting citizens' rights. The actions aim to create a regulatory environment that balances the fostering of innovation with the protection of individual and collective rights, covering impact studies, risk assessment methodologies, and the creation of a national center for algorithmic transparency.

B) Program to Support AI Governance

This program aims to establish effective governance mechanisms for AI in Brazil, promoting collaboration among different actors and strengthening the Country's position in the international scenario. The objective is to establish structures and processes to guarantee the ethical and responsible development and use of AI in the Country, including the consolidation of the Brazilian AI Observatory, structuring support networks, and expanding Brazil's international participation in AI debates.

4. Governance and monitoring of the AI for the Good of All Plan

The creation and implementation of an adequate governance structure is fundamental for implementing the actions and monitoring the strategic objectives of PBIA, in order to promote transparency and thus guarantee public trust. International examples, such as the *White House AI Council* in the United States, the *AI Office* in the European Union, and the *Office for Artificial Intelligence* (OAI) in the United Kingdom, illustrate the importance of robust governance structures for AI plans and strategies.

A well-defined governance structure allows for strategic alignment and coordination among various stakeholders, including governments, academia, the private sector, and civil society. As an example, in the United States, the *National Artificial Intelligence Advisory Committee (NAIIC)*, composed of 25 members from various sectors, coordinates the activities of different governmental agencies and promotes public-private partnerships, collaborating with various actors to obtain information on technology capabilities, limitations, and its impacts on society.

In the European Union, the *Scientific Panel and Advisory Forum*, recently instituted by the AI Act[7], act as independent advisory bodies, offering technical, scientific, and strategic guidance for the development and governance of AI. This strategic alignment ensures that resources are used efficiently and that AI initiatives are directed towards common and priority objectives. It also has the function of supervising the implementation of policies related to artificial intelligence and ensuring that decisions are executed in a coherent and responsible manner.

In the United Kingdom, the *Office for Artificial Intelligence (OAI)*, now integrated into the *Department for Science, Innovation and Technology* since February 2024, performs the function of supervision and facilitation in the partnership between various sectors. This level of supervision is fundamental for rapidly adapting strategies according to technological progress and social needs.

Transparency and accountability are essential pillars of any governance structure. The European Union, through its *EU Artificial Intelligence Observatory*, ensures that all initiatives related to AI are monitored and that progress reports are published regularly. This transparency not only increases public trust in the technology but also encourages the accountability of all parties involved.

To enable broad, transparent, and responsible governance, with distributed responsibilities and monitoring and review mechanisms, in addition to being agile and adaptable to rapid technological and social changes, the AI Plan will have its governance structure coordinated by the Interministerial Committee for Digital Transformation (CIT Digital)[8], composed of representatives of the Federal Public Power.

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7   European regulation on artificial intelligence (AI) that assigns three risk categories to AI applications.

8   The Interministerial Committee for Digital Transformation (CIT Digital) was instituted through Decree No. 12.308/2024, as a collegiate body of a consultative nature, with the purpose of advising the President of the Republic in the elaboration, implementation, and monitoring of public policies aimed at digital transformation.

Final Considerations

The AI for the Good of All Plan - Brazilian Artificial Intelligence Plan (PBIA) - represents a significant milestone in Brazil's journey towards leadership in AI technologies, with a clear focus on sustainable development and social well-being. This ambitious plan aims not only to boost technological advancement but also to ensure that the benefits of AI are accessible and beneficial for all Brazilians.

PBIA is based on the principles that inform AI for the good of all, according to Brazil's vision. This approach is human-centered and universally accessible, founded on respect for dignity, social rights, and diversity, preventing inequalities and discriminatory biases. An AI for the good of all is oriented towards overcoming social, environmental, and economic challenges, aligning with the United Nations (UN) Sustainable Development Goals (SDGs). It is also founded on the right to development and national sovereignty, promoting technological autonomy and economic competitiveness. It prioritizes transparency and traceability, intrinsically guaranteeing data privacy and sovereignty, cybersecurity, consumer protection, and intellectual property. Finally, it adopts a globally cooperative stance, aiming for fair and mutually beneficial relations that induce the progress of humanity, protect information integrity, and defend democracy. In short, PBIA aims to create an AI ecosystem that is responsible, inclusive, and sustainable, placing human well-being and national development at the center of its priorities – serving as an example to the world.

Through the proposed actions, PBIA promises to transform various aspects of Brazilian society. From the implementation of one of the most powerful supercomputers in the world, which will drive cutting-edge research, to the development of advanced language models in Portuguese, the plan seeks to establish a solid foundation for AI innovation in the Country. The training of hundreds of thousands of professionals and researchers in AI will not only strengthen national technical capacity but also democratize access to knowledge in this crucial area.

However, it is crucial to recognize that AI, although a powerful technology, is not a universal solution. AI is a strategic tool to address specific bottlenecks and can boost development. The success of PBIA in achieving its ambitions, however, depends on complementary actions in fundamental areas such as education, digital infrastructure, and the reduction of regional disparities.

A particularly important aspect of PBIA is its commitment to sustainability. Leveraging Brazil's predominantly clean energy matrix, the plan aims to develop innovative environmentally responsible AI solutions. This positions Brazil as a potential global leader in sustainable AI, a significant competitive differential in the international scenario. By consolidating the AI production chain in Brazil and mobilizing this technology to achieve strategic national objectives, PBIA strengthens Brazil's position as a significant global player in AI. This positioning is crucial to ensure that the Country can actively participate in defining the future directions of this transformative technology.

Annex 1. Immediate Impact Actions

Impact Actions - New

Health

- **Impact Action 1: Spoken Health Records in SUS**

AI system to automate the transcription of telemedicine consultations.

> » **Challenge:** to improve clinical documentation processes during telemedicine services, aiming to enhance the quality of medical care.

> » **Expected impacts:** faster and more accurate diagnoses; more effective treatments; reduction in the mortality rate; and creation of a secure repository of structured clinical data for use in health.

- **Impact Action 2: AI for Medication Procurement Decision Support in SUS**

AI system for specialized medication governmental procurement decision support.

> » **Challenge:** to improve the planning and execution of specialized medication governmental procurement, to address various challenges that affect forecasted demand.

> » **Expected impacts:** greater accuracy in demand forecasts; improvement in the management and planning of governmental procurement; and increased efficiency in medication distribution.

- **Impact Action 3: Optimization of Diagnoses in SUS and Prognostic Prediction with AI**

AI-based system to enhance the accuracy and agility of medical diagnoses.

> » **Challenge:** to improve medical diagnosis processes, especially in critical areas such as stroke (AVC), pneumonia, breast cancer, tuberculosis, melanoma, among others.

> » **Expected impacts:** faster and more accurate diagnoses; more effective treatments; reduction in the mortality rate; and creation of a secure repository of structured clinical data for use in health.

- Impact Action 4: AI in Oral Health in SUS

AI for oral cancer prognosis and improvement in oral health management in the Unified Health System (SUS).

> » **Challenge:** to increase the efficiency and quality of oral health services offered by SUS and enhance the National Oral Health Policy.

> » **Expected impacts:** improvement of prognosis with more assertive clinical decision-making; advancement of research in Brazil; and enhancement of the National Oral Health Policy.

- Impact Action 5: AI for Anomaly Detection in Hospital and Outpatient Procedures in SUS

System to detect anomalies in hospital and outpatient procedures with the aim of providing better management of public resources.

> » **Challenge:** to identify anomalies in hospital and outpatient procedures, with the objective of detecting and preventing possible irregularities or errors to improve the management of the health system.

> » **Expected impacts:** reduction of possible irregularities and errors in health procedures; increase in the efficiency and integrity of health systems; and improvement in the utilization of public resources.

- Impact Action 6: AI for Judicialization Process Management Support in SUS

Intelligent system for judicial process management decision support.

> » **Challenge:** to reduce health litigation and identify treatment alternatives, decreasing costs and improving the planning and procurement management of high-cost medications and procedures.

> » **Expected impacts:** reduction of litigation costs; increase in the efficiency of judicial processes; and improvement in transparency and efficiency in the management of judicialization processes.

- Impact Action 7: Well-Cared for Elderly in SUS

Artificial intelligence platform for the promotion and care of the elderly's health.

> » **Challenge:** to improve, through the use of AI technologies, the early diagnosis of neurodegenerative diseases, which mainly affect the elderly population.

> » **Expected impacts:** advancement in diagnostic efficiency; improvement in the quality of health services; improvement in the quality of life of the elderly population; and reduction of public health costs.

Agriculture and livestock

● **Impact Action 8: Digital Ater - AI**

Digital technical guidance service with AI, providing climate, territorial, and meteorological data to rural producers, through a chatbot service, to answer questions.

> » **Challenge:** to strengthen the Technical Assistance and Rural Extension (Ater) service, with personalized service focused on reducing crop losses, increasing productivity, and reducing costs.

> » **Expected impacts:** adoption of technologies for low-carbon agriculture; increase in agricultural productivity; reduction of production costs; and improvement in the rural producer's income.

Education

● **Impact Action 9: Present Management System**

Intelligent management solution using AI for monitoring the attendance of basic education students, aiming to address school dropout and evasion.

> » **Challenge:** to reduce school dropout and evasion in basic education in Brazil. Among the most vulnerable population, only 46% of the poorest students complete basic education.

> » **Expected impacts:** reduction of school evasion; and increase in the number of graduates in elementary and secondary education.

● **Impact Action 10: Quality Control of Food Acquisitions for Pnae**

Implementation of AI solutions for processing and analyzing invoices for foodstuff purchases with the objective of ensuring the quality and origin of acquired food and preventing fraud.

> » **Challenge:** to improve the process of foodstuff acquisitions through the National School Feeding Program (Pnae), which serves about 40 million basic education students.

> » **Expected impacts:** guarantee of healthy and adequate nutrition; guarantee of support for sustainable development, with the acquisition of diversified food.

● **Impact Action 11: Student Trajectory Prediction and Protection System**

AI system to reduce evasion in Brazilian schools and universities by identifying risk and/or protection factors for trajectories by stage.

> » **Challenge:** to reduce school dropout and evasion in basic education in Brazil, given the increase in evasion in recent years in basic education, in addition to about 40% annual evasion in federal universities.

» **Expected impacts:** reduction of school evasion; increase in the number of graduates in basic and higher education; and guarantee of professional training for the Brazilian job market.

- **Impact Action 12: Adaptive Solutions with Generative AI for Formative and Diagnostic Literacy Assessment**

Support for teachers and school managers in assessing student activities for better intervention in literacy.

» **Challenge:** to increase the time available for teachers for analytical and pedagogical tasks, in order to optimize activities and support teachers in interventions for student literacy.

» **Expected impacts:** increase in teaching quality; and possibility of personalized intervention for each student, focusing on the most difficult subjects and activities.

- **Impact Action 13: Intelligent Mathematics Tutoring Systems with Generative AI**

Intelligent tutoring systems for the development of mathematical skills (unplugged mode), from the first to the fifth year of elementary school.

» **Challenge:** to improve the level of learning of Brazilian students in mathematics (30% of Brazilian students reached the minimum learning standard and 69% in OECD countries – PISA data).

» **Expected impacts:** improvement in student performance in the PISA math assessment; and reduction of school failure due to poor performance in mathematics.

- **Impact Action 14: Better AI for Student Learning and Well-being**

Support system using positive psychology, generative AI, and intelligent tutoring systems to promote learning and well-being.

» **Challenge:** to increase the level of student learning and well-being in the teaching process, in order to ensure greater learning and decrease school dropout and evasion.

» **Expected impacts:** increase in the level of student learning; and reduction of the dropout, evasion, and school failure rate.

Social development

- **Impact Action 15: Believe in the first step - AI**

Platform using AI to map the needs of the population registered in CadÚnico, offering qualification courses, job opportunities, and support actions for entrepreneurship, directing people for (re)insertion into the job market and sustainable entrepreneurship.

> » **Challenge:** to ensure a civic life for low-income and socially vulnerable families, guaranteeing socio-economic autonomy.

> » **Expected impacts:** increase in the level of employability and socio-economic autonomy of those registered in CadÚnico; and improvement in the qualification level of those registered in CadÚnico.

Public services management

● **Impact Action 16: Fiscaliza IA - Federal Revenue of Brazil (RFB)**

Application of large-scale language models to assist in the classification and judgment of fiscal administrative proceedings, including jurisprudential search and divergent theses.

> » **Challenge:** to reduce the judgment time of fiscal administrative proceedings in the RFB, with an increase in legal certainty.

> » **Expected impacts:** significant reduction in the average judgment time of proceedings; increase in the legal certainty of decisions; and acceleration of tax credit collection.

● **Impact Action 17: Atende IA - Abroad**

Implementation of an AI-based *chatbot* on the consulate web page for fast, reliable service in any language.

> » **Challenge:** to ensure the efficiency and agility in consular services to Brazilian residents and non-residents abroad, providing answers, in any language, based on prior information.

> » **Expected impacts:** agile access to available information in consular services; reduction of employee workload; and improvement of efficiency in service to Brazilian citizens abroad.

Impact Actions Supported by Finep (ongoing)

Health

● **Impact Action 18: Autonomous Environment Disinfection**

Autonomous robot for environment disinfection using UV-C technology and ozonized mist to eliminate viruses and bacteria present in the air and on surfaces.

> » **Challenge:** to improve the capacity for environment disinfection to ensure less proliferation of viruses and bacteria.

> » **Expected impact:** increase in the efficiency of environment disinfection, mainly in the context of pandemics and the proliferation of contagious diseases.

- Impact Action 19: AI and Big Data for Cancer Treatment

Platform with AI for cancer treatment in the peritoneum using ultrasound technology for aerosolization of chemotherapeutic agent in the peritoneal cavity.

» **Challenge:** to increase the treatment response capacity and patient survival with cancer in the peritoneum.

» **Expected impact:** greater response in oncological treatment of the peritoneal space.

- Impact Action 20: Generative AI for Health Care Personalization

AI assistant to optimize the personalization of health care, in the context of Digital Primary Health Care.

» **Challenge:** to offer personalized medicine on a mass scale.

» **Expected impacts:** improvement in quality of life indicators; decrease in cases of diseases and illnesses; and reduction of costs in the health system.

- Impact Action 21: Prevention of Stroke and Cardiopathy in Supplementary Health Clients

AI application for the prediction of cardiovascular system pathologies such as ischemic heart diseases and stroke.

» **Challenge:** to prevent pathologies related to the cardiovascular system.

» **Expected impact:** reduction in the number of complications and hospitalizations caused by heart diseases and stroke.

- Impact Action 22: Retina without Anomalies

AI system in a retinograph for high-accuracy detection of anomalies in the human retina.

» **Challenge:** to assist in combating severe visual impairment and global blindness, with more than 75% of cases due to lack of prevention and correct treatment.

» **Expected impacts:** support in ophthalmological medical care in the process of retinal analysis and investigation; and agility and accuracy in ophthalmological consultations.

- Impact Action 23: AI for Health Reimbursement Optimization

Development of AI-based technology to automate the reimbursement processes of health plans.

» **Challenge:** to ensure the reimbursement of health plans.

» **Expected impact:** agility in the reimbursement of performed medical procedures.

Agriculture and livestock

● **Impact Action 24: Bovine Weight Calculation by 3D Camera**

AI tool, using computer vision, for monitoring livestock weight, avoiding cattle handling.

>> **Challenges:** to reduce animal stress by performing less handling; to quickly monitor the weight evolution of the batches.

>> **Expected impacts:** improvement in the quality of meat produced; and agility in business management for the rural producer.

Environment, Climate, and Sustainability

● **Impact Action 25: AI for Quantification of Amazon Biome Forest Stock**

Mapping using AI for the location of plant species of interest in the Amazon Biome.

>> **Challenge:** to catalog species efficiently and effectively.

>> **Expected impacts:** cataloging of plant species; and increase in the protection of the Amazon Biome.

Industry, Trade, and Services

● **Impact Action 26: AI for Legal Management**

AI robot assistant to perform jurimetrics, created to process and analyze millions of lawsuits published on court portals in order to generate an AI model.

>> **Challenge:** to increase the assertiveness of the legal service.

>> **Expected impacts:** agility in the processing and analysis of lawsuits; increase in the assertiveness of the legal service; and improvement in the drafting of lawsuits.

● **Impact Action 27: Artificial Intelligence for Corporate Communication**

Development of personalized *chatbots* based on advanced AI technology.

>> **Challenge:** to promote greater and better interaction between the customer and the company, allowing for an increase in the number of services provided and a reduction in waiting time.

>> **Expected impacts:** improvement of the interaction between the customer and the company; increase in the number of services provided; and reduction of waiting time.

Annex 2. Structuring actions

Axis 1: Infrastructure and AI Development

National AI Infrastructure Program

● **Action 1: AI Supercomputer**

Acquisition of a specialized supercomputer – Top 5 Worldwide.

» **Challenge:** to expand Brazil's high-performance processing capacity, essential for advanced research in multiple scientific areas, technological development, and innovation.

» **Expected impacts:** increased volume of research demanding high-performance computing and the use of AI, generating advancement in R&D of solutions for the well-being of society through innovations.

● **Action 2: Expansion of the Processing Capacity of the National High-Performance Processing Centers (Cenapads)**

Purchase of supercomputers for regional supercomputing centers.

» **Challenge:** to expand and improve the regional distribution of Brazil's high-performance processing capacity, essential for advanced research, technological development, and innovation.

» **Expected impact:** increased volume of research demanding high-performance computing and the use of AI, generating advancement in R&D of solutions for the well-being of society through innovations.

● **Action 3: High-Speed Connection Networks for Supercomputing**

Expansion of access to supercomputers, with investments in connectivity equipment (e.g., routers and firewalls) and connection infrastructure.

» **Challenges:** to network and guarantee access to Brazilian supercomputers.

» **Expected impact:** increased volume of research demanding high-performance computing and the use of AI, generating advancement in R&D of solutions for the well-being of society through innovations.

- Action 4: Pro-Infra AI

Funding for the acquisition, installation, and modernization of AI infrastructure in Brazilian ICTs.

  » **Challenge:** to expand and modernize computational capacity for AI in ICTs, including data centers and specialized processors, particularly machine learning accelerators.

  » **Expected impacts:** increased capacity for R&D&I in AI per ICT in Brazil; and reduction of regional asymmetries in AI infrastructure.

- Action 5: International Partnerships for the Development of Supercomputer Nodes and Machine Learning Accelerators

Establishment of partnerships for the national development of supercomputer nodes and machine learning accelerators.

  » **Challenge:** to reduce or eliminate external technological dependence on critical components for AI.

  » **Expected impacts:** development of national technological capacity and reduction of external dependence on critical hardware for AI; strengthening of Brazil as a global partner in AI R&D.

- Action 6: International Partnerships for Sharing AI R&D Infrastructure

Sharing of Brazilian AI infrastructure with other developing countries

  » **Challenge:** to promote access to cutting-edge infrastructure by developing countries, especially in Latin America, the Caribbean, and Africa.

  » **Expected impacts:** development of national technological capacity and reduction of external dependence on critical hardware for AI; strengthening of Brazil as a global partner in AI R&D.

Sustainability and Renewable Energy Program for AI

- Action 7: Pro-Infra Sustainable AI

Funding for the implementation of sustainable and efficient energy infrastructure for *data centers*.

  » **Challenge:** to implement renewable energy infrastructure and sustainable use of resources to support the growth of AI in Brazil, leveraging the Country's clean energy matrix.

  » **Expected impacts:** reduction of the carbon footprint of AI infrastructure in Brazil; and increase in energy efficiency in high-performance computing facilities.

Program for Structuring the Data and Software Ecosystem for AI

- **Action 8: Development of an AI Software Stack**

Support for the development of all necessary software layers for AI applications.

   » **Challenge:** to develop a national AI software stack, aiming to be interoperable and integrated with existing free software stacks, seeking to optimize performance and promote technological independence.

   » **Expected impacts:** technological sovereignty; improvement in data security and privacy; resource optimization; and economic development, innovation, and competitiveness.

- **Action 9: AI Based on National Data (LLM in Portuguese)**

Funding for the curation of national datasets and support for the development of foundational models, particularly Large Language Models (LLM), specialized in Portuguese.

   » **Challenge:** to create and enhance national databases for AI training, reducing external dependence and contemplating Brazil's diversity and specificities.

   » **Expected impacts:** reduction of external dependence; greater alignment of AI models with national norms and specificities.

AI Research and Development Program

- **Action 10: Promotion of AI R&D Activities**

Launch of calls for proposals and financing initiatives for AI R&D projects, including thematic ones (education, health, environment, and creative economy, among others).

   » **Challenge:** to boost multidisciplinary AI R&D in Brazil, integrating different areas of knowledge.

   » **Expected impacts:** advancement in scientific and technological production in applied AI in Brazil, with innovative solutions for national challenges; training of highly qualified AI researchers.

- **Action 11: INCT - AI**

Funding for AI research and development through National Institutes of Science and Technology (INCT), integrating computing and exact sciences with areas such as biological, health, social, human, cultural, economic, and legal sciences.

   » **Challenge:** to consolidate a multidisciplinary network of excellence, capable of developing AI solutions oriented towards facing national challenges in various areas.

» **Expected impacts:** increase in national R&D&I capacity in AI; training of highly qualified researchers and professionals; acceleration of technology transfer to the productive sector.

- Action 12: National Institute of Informatics with a Focus on AI

Creation of the National AI Institute to foster advanced AI research.

» **Challenges:** to strengthen AI R&D in Brazil and increase the impact of Science, Technology, and Innovation (ST&I) on companies with global competitiveness potential.

» **Expected impacts:** strengthening of Brazil in global AI research; acceleration of innovation through international collaborations; and increase in computational capacity for AI research.

- Action 13: Promotion of R&D in Cooperation with Latin America, the Caribbean, and Africa

Promotion of international collaborative R&D in AI, with research institutions and universities in Latin America, the Caribbean, and Africa.

» **Challenge:** to strengthen scientific and technological cooperation in AI among countries, promoting the joint development of solutions for common challenges.

» **Expected impact:** consolidation of Brazil as a strategic AI partner in South America and Africa, boosting the development of technological solutions.

Axis 2: Diffusion, Training, and Qualification

AI Diffusion and Dissemination Program

- Action 14: AI Diffusion, Dissemination, and Digital Literacy

Comprehensive action for digital literacy and AI dissemination, aiming to popularize technological fundamentals, transparency, everyday applications, risks, and citizens' rights. Includes the Brazilian AI Olympiad.

» **Challenge:** to increase the knowledge, engagement, and social inclusion of the Brazilian population regarding AI.

» **Expected impacts:** increase in interest and understanding of AI among youth and in the general population; improvement in scientific education; and more conscious and responsible use of technology.

AI Training Program

- **Action 15: Interdisciplinary Laboratories for Educator Training (Lifes)**

Creation and expansion of Lifes for teacher training in AI literacy and the pedagogical use of AI.

> » **Challenge:** to promote the qualification of teachers for the pedagogical use of AI.

> » **Expected impacts:** teachers more prepared to address AI topics in the classroom; and training of a more qualified workforce for the future.

- **Action 16: AI in Undergraduate Education**

Creation of undergraduate courses in AI and related fields; stimulus for the creation of elective subjects in programming, data science, and AI; and offering of AI-focused vacancies in the Student Financing Fund (Fies).

> » **Challenge:** to expand training in AI and related disciplines across all undergraduate courses.

> » **Expected impacts:** increase in the number of professionals with AI training; and greater integration of AI into various areas of knowledge.

- **Action 17: AI Scholarships for Undergraduate and Postgraduate Education**

Scientific initiation, master's, and doctoral scholarships for scientific initiation, master's, and doctoral studies in AI, with competitive values for talent training, attraction, and retention.

> » **Challenges:** to increase the supply of highly qualified AI professionals in Brazil and reduce the gap between academia and industry.

> » **Expected impacts:** increase in the quantity and quality of AI research; highly qualified researchers; AI applications with direct benefits for society in strategic areas.

- **Action 18: AI Doctoral Scholarships Abroad**

Doctoral scholarships abroad in the field of artificial intelligence to expand international partnerships in AI research.

> » **Challenge:** to expand international partnerships in AI research.

> » **Expected impacts:** doctors with international experience in AI; strengthening of international research collaboration networks; greater quality and visibility of Brazilian AI research.

AI Qualification, Skills, and Requalification Program

- Action 19: Professional Qualification in AI

National platform of online AI qualification courses, as well as in-person qualification courses via internships in companies.

> » **Challenge:** to increase the supply of qualified professionals in specific AI areas.

> » **Expected impacts:** increase in the supply of qualified AI professionals; reduction of training gaps in AI skills in the industrial sector; and contribution to the realization of the NIB missions.

- Action 20: AI for Education and Work

Multi-institutional initiative for AI training and qualification, with intensive use of experimental environments.

> » **Challenge:** to increase the supply of qualified AI professionals in Brazil.

> » **Expected impacts:** greater supply of qualified AI professionals; greater competitiveness of Brazilian companies; promotion of innovation and entrepreneurship.

- Action 21: ICT-AI Residency

Technological training and qualification in AI, in partnership with the private sector (internships in companies).

> » **Challenge:** to increase the supply of professionals in ICTs with a focus on AI.

> » **Expected impact:** increase in the supply of qualified AI professionals, meeting market demand and contributing to the competitiveness of the Brazilian industry and ICT ecosystem.

Axis 3: AI for Improving Public Services

Federal Government AI Core

- Action 22: Government Artificial Intelligence Platform

Government AI platform with an approach based on the context and strategy of the federal public administration.

> » **Challenges:** to develop, train, and deploy AI models for the government.

> » **Expected impacts:** elaboration of integration standards; interoperability; availability of emerging technologies; and operation of AI projects.

- Action 23: AI Project Prospecting and Structuring

Establishment of a methodology for the prospecting and structuring of strategic AI-related projects within the government.

> » **Challenges:** to identify and structure strategic AI projects in the government.

> » **Expected impacts:** identification of opportunities for the structuring and application of AI solutions in the public sector; and improvement in the quality and efficiency of public services.

- Action 24: Experimentation of AI Projects in the Government

Development of AI pilot projects in the federal government to assess viability, risks, and benefits, before large-scale implementation.

> » **Challenge:** to evaluate the viability and impact of experimental AI projects before large-scale application.

> » **Expected impact:** better foundation for the decision to advance to large-scale AI project development, reducing project risk.

- Action 25: Monitoring of AI Development and Use

System for collecting and analyzing data on AI projects in the federal government to obtain an integrated view of their adoption and development.

> » **Challenge:** to obtain an integrated view of the progress of AI adoption in the federal government.

> » **Expected impacts:** evaluation of the pace of AI solution adoption; and identification of problems faced and technologies used.

- Action 26: Qualification of Public Servants in AI

Qualification of federal public servants in AI to support the development and adoption of the technology in the government.

> » **Challenge:** to qualify federal public servants to respond to the challenges of digital transformation and AI.

> » **Expected impacts:** increase in the number of public servants capable of working with artificial intelligence; and efficient and quick delivery of services to the population.

National Data Infrastructure

- **Action 27: Sovereign Cloud**

Private or community cloud infrastructure managed exclusively by public agencies or companies.

> » **Challenges:** to protect confidential data, guarantee privacy, availability, and appropriate management thereof.

> » **Expected impacts:** increase in the security and sovereignty of critical/sensitive data; storage of critical/sensitive data in national territory; and guarantee of data sovereignty and privacy.

- **Action 28: Data Cataloging, Governance, and Use Strategy**

Establishment of a data governance policy, expansion of maturity in data use, and cataloging of datasets within the federal government.

> » **Challenge:** to treat public data as strategic assets to support the solution of major societal challenges.

> » **Expected impacts:** institutionalization and prioritization of the strategic use of data in federal agencies and entities; expansion of the governance, transparency, and reuse of governmental data.

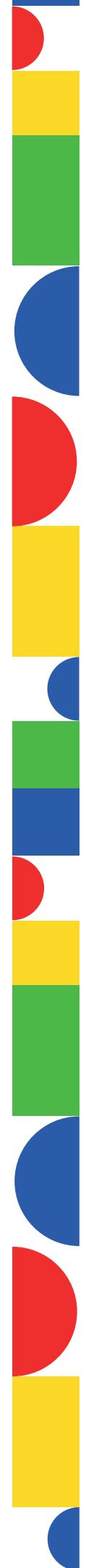- **Action 29: Integration and Strategic Reuse of Data**

Implement interoperability among governmental agencies and entities to promote the efficient reuse and sharing of data.

> » **Challenge:** to promote data sharing to avoid duplication of citizen efforts in compliance with the LGPD.

> » **Expected impacts:** simplification of access to digital public services; reduction of bureaucracy and resource savings through the implementation of the "once only" principle and interoperability among governmental agencies.

- **Action 30: Personalization of Public Services**

Personalization of public services, to offer the citizen contextual, targeted, and proactive content.

> » **Challenge:** to expand the offering of content from the various federal public agencies and entities to citizens in a personalized and proactive manner.

> » **Expected impact:** expansion of citizenship, as the citizen will have, in advance and through personalized messages, information about their rights and obligations.

- Action 31: Privacy and Information Security in the Public Sector

Set of comprehensive privacy and information security actions in federal agencies.

> » **Challenge:** to guarantee the privacy and security of citizens' information in the provision of public services.

> » **Expected impacts:** strengthening of privacy and information security; increase in the resilience of public institutions; and increase in the degree of citizen trust in the use of digital public services.

- Action 32: Infrastructure for the Use and Application of AI in Education

Construction of a unified educational database.

> » **Challenges:** application of AI in education based on the organization, integration, and crossing of educational data, access to data in an anonymized way for researchers and accredited public.

> » **Expected impacts:** greater privacy and information security; increase in the resilience of public institutions; and increase in the degree of citizen trust in the use of digital public services.

AI Solutions for Public Services Program

- Action 33: AI Solutions for the Government

Launch of periodic calls for proposals to develop AI solutions that meet public sector challenges and foster *govtech startups*.

> » **Challenge:** to improve the quality and efficiency of public services using AI for the analysis of the large volume of available governmental data.

> » **Expected impacts:** greater efficiency and effectiveness of public services provided to the population; increased AI adoption in the public sector; and development of *startups (govtechs)* focused on the AI area.

- Action 34: Development of AI for Cybersecurity in the Government

Development of AI systems to improve the detection and response to cybersecurity incidents in the government.

> » **Challenge:** to increase the response capacity to cyberattacks through the use of AI tools.

> » **Expected impacts:** increase in the ability to quickly analyze large amounts of data; identification of abnormal behavior; detection of malicious activities.

- Action 35: Development of AI for the Improvement of Public Procurement

Development of AI tools to optimize public procurement processes.

> » **Challenge:** to identify patterns in public procurement focusing on process agility, cost reduction, error and fraud correction, and increased transparency and effectiveness.

> » **Expected impacts:** improvement in the quality, efficiency, and effectiveness of public procurement processes; and promotion of the ecosystem and the development of AI solutions in the Country.

- Action 36: AI for Education Resource Management

Use of AI for the simplification and automation of management and accountability processes for financial resources from FNDE transfers and the Direct School Money Program.

> » **Challenges:** to modernize and optimize management, with monitoring and accountability through AI.

> » **Expected impact:** greater agility in the management and accountability of education resources.

- Action 37: Use of AI to Improve Human Resource Management Processes

Development and use of AI in projects related to the Human Resource Management area in the public service.

> » **Challenge:** to increase operational and management efficiency of human resources.

> » **Expected impacts:** improvement in the quality and efficiency of administrative processes; and reduction of costs caused by human errors.

- Action 38: Use of AI to Improve Union Asset Management Processes

AI for the Management of Union Assets.

> » **Challenges:** to improve the management and monitoring of Union real estate, such as valuation, identification, and incorporation of new properties; and to support the inspection operations of Union real estate.

> » **Expected impacts:** improvement in the quality and efficiency of administrative processes, and reduction of costs caused by human errors.

- Action 39: Support for the Development of AI Projects in State-Owned Enterprises

Prospecting and support for the structuring of strategic projects related to artificial intelligence in state-owned enterprises.

» **Challenge:** to identify opportunities for the development of AI projects in state-owned enterprises aligned with the achievement of public policy objectives.

» **Expected impacts:** improvement of state-owned enterprise processes; and contribution to fostering the ecosystem and the development of AI solutions in the Country.

- **Action 40: SIPEC – Intelligent System for Extreme Climate Prediction**

Development of an artificial intelligence-based system for the prediction of extreme climate events, with a high degree of reliability and specific to Brazilian characteristics.

» **Challenges:** to predict extreme climate events and mitigate the damage caused to society.

» **Expected impact:** improvement of Brazil's capacity to predict and prepare for extreme climate events, in order to minimize their adverse impacts on the population.

Axis 4: AI for Business Innovation

Program for Fostering the AI Value Chain

- **Action 41: Development of National Data Centers**

Support for the creation of data centers powered by renewable energy sources, prioritizing the North and Northeast regions.

» **Challenge:** to develop and strengthen the chain of data center suppliers for AI in Brazil.

» **Expected impacts:** implementation of high-capacity and energy-efficient data centers in Brazil; establishment of robust infrastructure for AI; and reduction of dependence on foreign resources.

- **Action 42: Systemic Support for the AI Value Chain**

Support for the AI value chain, integrating and expanding Embrapii's actions related to AI projects.

» **Challenge:** to strengthen national productive capacity in the AI chain.

» **Expected impacts:** greater capacity to develop AI solutions for strategic challenges; greater collaboration among actors; and positioning of Brazil as a reference in AI innovation.

- **Action 43: Support for AI Startups**

Creation of an investment fund to support AI startups, including resources from the Plano Mais Produção.

» **Challenge:** to increase the number, revenue, and global presence of Brazilian AI startups.

» **Expected impacts:** creation and growth of AI startups; new innovation environments and hubs; greater international competitiveness; and strengthening of the capacity to create endogenous AI models.

- **Action 44: AI for MSMEs and Individual Micro-entrepreneurs (MEIs)**

Stimulus and expansion of AI adoption in different segments of small businesses.

» **Challenge:** to increase the productivity and competitiveness of Micro and Small Enterprises (MSMEs) and Individual Micro-entrepreneurs (MEIs).

» **Expected impacts:** increased adoption and effective use of AI among MSMEs in intensive sectors; preparation and support strategies for the adoption of advanced technologies among MEIs and informal entrepreneurs.

- **Action 45: Human Resources in Strategic Areas (RHAE) - AI**

Insertion of masters and doctors specializing in AI in private companies, preferably micro, small, and medium-sized.

» **Challenge:** to expand the insertion of masters and doctors into private companies, preferably MSMEs, for greater interaction between universities and companies.

» **Expected impacts:** leveraging the productivity of national small and medium-sized enterprises; and diffusion, sharing, and improvement of technical-scientific knowledge.

- **Action 46: Talent Retention for AI Innovation**

Salary complementation scholarships for the retention of AI talent.

» **Challenge:** to promote the retention of the highly qualified AI workforce in Brazil, avoiding evasion to competing markets.

» **Expected impacts:** decrease in the evasion of qualified AI professionals to competing markets; and fixation of AI-trained professionals in companies.

AI Program for Brazilian Industry Challenges

- **Action 47: National AI Center for Industry (CNIA4I)**

Creation of a center for the development of AI-based technologies for industry.

> » **Challenge:** to foster an adequate technological ecosystem for the development of AI models for industrial applications.

> » **Expected impacts:** Brazil as a regional leader in AI; guarantee of technological security and sovereignty, through the scientific and technological advancement of the Brazilian industry.

- **Action 48: AI Solutions for NIB Missions**

Targeting of resources from the Plano Mais Produção and Programa Mais Inovação for AI projects applied to industry, focusing on the application chains defined in the New Brazil Industry (NIB) missions.

> » **Challenge:** to adopt AI solutions aligned with the specific needs of the New Brazil Industry (NIB) missions.

> » **Expected impacts:** increase in AI adoption in the Brazilian industrial sector; strengthening of the national software industry, with greater capacity to develop and implement specialized AI systems.

- **Action 49: AI for Increasing Productivity of Industrial MSMEs**

Adoption of AI tools in the Brasil Mais Produtivo (B+P) program, covering three main aspects: creation of an industrial data space (dataspace), optimization of the registration process, and implementation of an AI library.

> » **Challenge:** to increase the productivity of industrial MSMEs.

> » **Expected impact:** improvement of the productivity of the MSMEs served by the program and the productive chains in which they are inserted.

Axis 5 – Support for the Regulatory and Governance Process of AI

Program for Improvement of the Regulatory Framework for AI

- **Action 50: Brazilian Guides for Responsible AI**

Series of guides on AI in Brazil to promote responsible use and adapted to the national reality.

> » **Challenge:** need to promote public trust in AI and adapt global standards to the Brazilian reality.

> » **Expected impacts:** greater understanding and trust of society regarding the use and applications of AI; responsible practices in the use and development of AI, aligned with global standards.

- Action 51: National Center for Algorithmic Transparency and Trustworthy AI

Creation of a national center to develop research and studies on the risks, security, transparency, and trustworthiness of AI.

> » **Challenge:** reduction of risks associated with the use and development of AI, in order to guarantee transparency, information integrity, and trustworthiness in AI systems.

> » **Expected impacts:** greater transparency and responsibility in the development and use of AI, facilitating the auditing and evaluation of systems; reduction of risks; and increase in public confidence in the technology.

Program to Support AI Governance

- Action 52: Brazilian AI Observatory (Obia)

Consolidation of the Brazilian Artificial Intelligence Observatory (Obia) as the main intelligence platform on AI in Brazil.

> » **Challenges:** to develop and consolidate indicators and databases for monitoring the use and development of AI in Brazil.

> » **Expected impact:** improvement in the formulation of public policies, corporate strategies, and decision-making related to AI.

- Action 53: Support Network for AI Governance in Brazil

Structuring of a research network to support AI governance processes in Brazil.

> » **Challenge:** to reduce dependence on external actors in critical capabilities for data and AI governance, including in specific sectors.

> » **Expected impact:** creation of national capacity on AI regulation and governance, adapted to the Brazilian context.

- Action 54: Support Network for Brazil's Participation in the International Debate

Structuring of a network of researchers and technicians to expand and qualify Brazil's participation in international debates and forums on AI.

> » **Challenges:** to expand and qualify Brazil's participation in discussions, initiatives, plans, normative acts, and/or resolutions of global scope in AI.

> » **Expected impacts:** strengthening of Brazil's global leadership; consolidation of its role as a relevant interlocutor in the area; conformation of AI governance that guarantees the right to development.

Acronyms and abbreviations found in this publication

ABC | Brazilian Academy of Sciences

Abruc | Brazilian Association of Community Higher Education Institutions

Abruem | Brazilian Association of Rectors of Provincial and Municipal Universities AI Act| European regulation on artificial intelligence (AI) that assigns three risk categories to AI

Ancine | National Cinema Agency

Andifes | National Association of Directors of Federal Higher Education Institutions

ANPG | National Association of Graduate Students

ANS | National Health Agency

Ater | Strengthening Technical Assistance and Rural Extension

AVC | Stroke (Cerebrovascular Accident)

Bacen | Central Bank of Brazil

BESM-Inpe | is the Brazilian Earth System Model (MBST) or BESM [from the English acronym for Brazilian Earth System Model ocean-atmosphere (BESM-OA)]. It is the first national climate model, developed by the National Institute for Space Research (Inpe); the Fapesp Program for Global Climate Change Research (PFPMCG); the Climate Network (Rede Clima); and the National Institute of Science and Technology for Climate Change (INCT-MC).

BNDES | Brazilian Development Bank Capes | Coordination for the Improvement of Higher Education Personnel

CC/PR | Civil House of the Presidency of the Republic

CCT | National Council for Science and Technology

Cenapad SP | National High-Performance Processing Center in São Paulo

CGEE| Technical team of the Center for Strategic Studies and Management

CGI.br | Brazilian Internet Steering Committee

CGU | Office of the Comptroller General

CIT Digital | Interministerial Committee for Digital Transformation

CMPIAS | Center for Monitoring and Promotion of Sustainable AI

CNI | National Confederation of Industry

CNIA4I | National AI Center for Industry

CNPq | National Council for Scientific and Technological Development

Confap | National Council for State Funding Agencies

Conif | National Council of Institutions of the Federal Network for Professional, Scientific and Technological Education

Consecti | National Council of State Secretaries for Science, Technology and Innovation Affairs

CPA | Applied Research Centers in Artificial Intelligence

Dataprev | Social Security Technology and Information Company

Ebserh | Brazilian Hospital Services Company

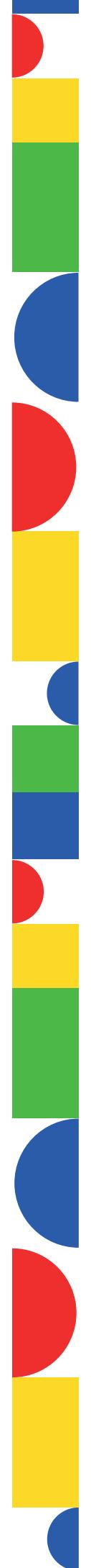**Embrapa |** Brazilian Agricultural Research Corporation

Embrapii | Brazilian Company for Industrial Research and Innovation

Enap | National School of Public Administration

EPE | Energy Research Company

FAP | Research Foundations

Fies | Student Financing Fund

Finep | Funding Authority for Studies and Projects

FIP | Equity Investment Fund

FNDCT | National Fund for Scientific and Technological Development

FNDE | National Fund for Education Development

Funttel | Fund for the Technological Development of Telecommunications

GSI | Institutional Security Cabinet of the Presidency of the Republic

IA | Artificial Intelligence

Ibama | Brazilian Institute of Environment and Renewable Natural Resources

Ibrachics | Brazilian Institute of Human, Smart, Creative and Sustainable Cities

ICT | Scientific, Technological, and Innovation Institutions

IES | Higher Education Institutions

Ifes | Federal Institute of Education, Science, and Technology

INCT-IA | Institute of Science and Technology in AI

IND | National Data Infrastructure

Inpe | National Institute for Space Research

LGPD | General Personal Data Protection Law

Lifes | Interdisciplinary Laboratories for Educator Training

LLM | Large Language Models

LMOps | Learning Machine Operations

LNCC | National Scientific Computing Laboratory

Mapa | Ministry of Agriculture and Livestock

MCTI | Ministry of Science, Technology and Innovation

MDIC | Ministry of Development, Industry, Trade and Services

MDS | Ministry of Development and Social Assistance, Family and Fight Against Hunger MEC | Ministry of Education

MEI | Individual Micro-entrepreneur

MGI| Ministry of Management and Innovation in Public Services

MIDR| Ministry of Integration and Regional Development

MJSP | Ministry of Justice and Public Security

MLOps | Machine Learning Operations

MMA| Ministry of the Environment and Climate Change

MME| Ministry of Mines and Energy

MPE | Micro and Small Enterprises

MPME | Micro and Small Enterprises

MRE| Ministry of Foreign Affairs

MS| Ministry of Health

MTE | Ministry of Labor and Employment

NAIIC | National Artificial Intelligence Advisory Committee

NEES/UFAL | Center of Excellence in Social Technologies - Federal University of Alagoas NIB | New Brazil Industry

OAI | Office for Artificial Intelligence

Obia | Brazilian Artificial Intelligence Plan

OCDE | Organisation for Economic Co-operation and Development

ODS | Sustainable Development Goals

ONU | United Nations

P&D | Research and Development (R&D)

PBIA| Brazilian Artificial Intelligence Plan

PDDE | Direct School Money Program

Pisa | Programme for International Student Assessment

Pnae | National School Feeding Program

PNPD em IA | Capes National Postdoctoral Program in Artificial Intelligence

RFB | Federal Revenue of Brazil

RFEPCT | Federal Network for Professional, Scientific and Technological Education

SAM/CC/PR | Secretariat of Articulation and Monitoring of the Civil House of the Presidency of the Republic

SBPC | Brazilian Society for the Advancement of Science

Sebrae | Brazilian Service of Support for Micro and Small Enterprises

Secom/PR | Secretariat of Social Communication of the Presidency of the Republic

Serpro | Federal Data Processing Service

Setad/MCTI | MCTI Secretariat of Science and Technology for Digital Transformation

Sexec/MCTI | MCTI Executive Secretariat

SGD | MGI Digital Government Secretariat

Sinapad | National High-Performance Processing System

Sine | National Employment System

Sisp | Information Technology Resources Administration System

STEM | Science, Technology,

Engineering and Mathematics

SUS | Unified Health System IT | Information Technology

ICT | Information and Communication Technologies

UF | Federative Units (States)

UFAL | Federal University of Alagoas

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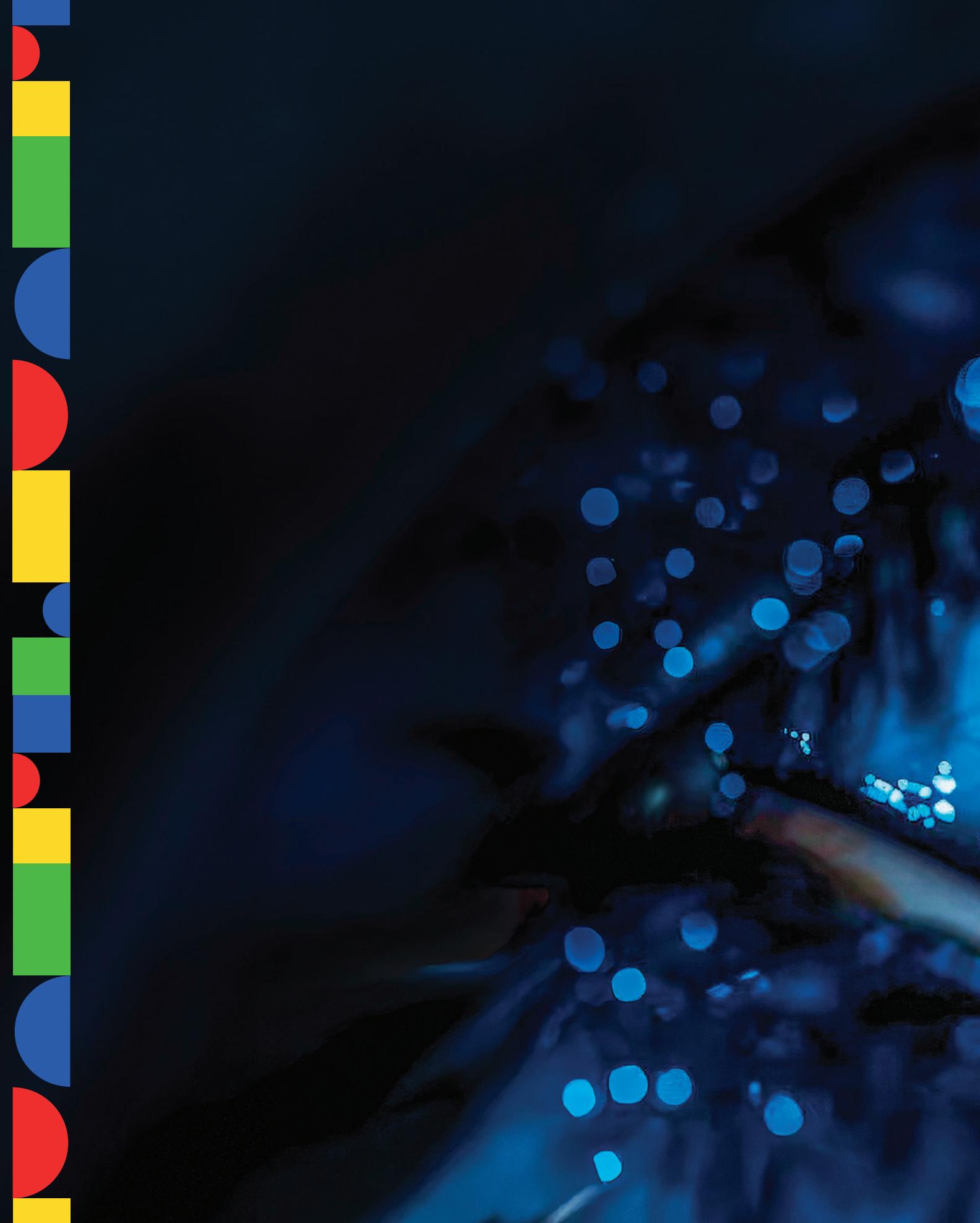
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