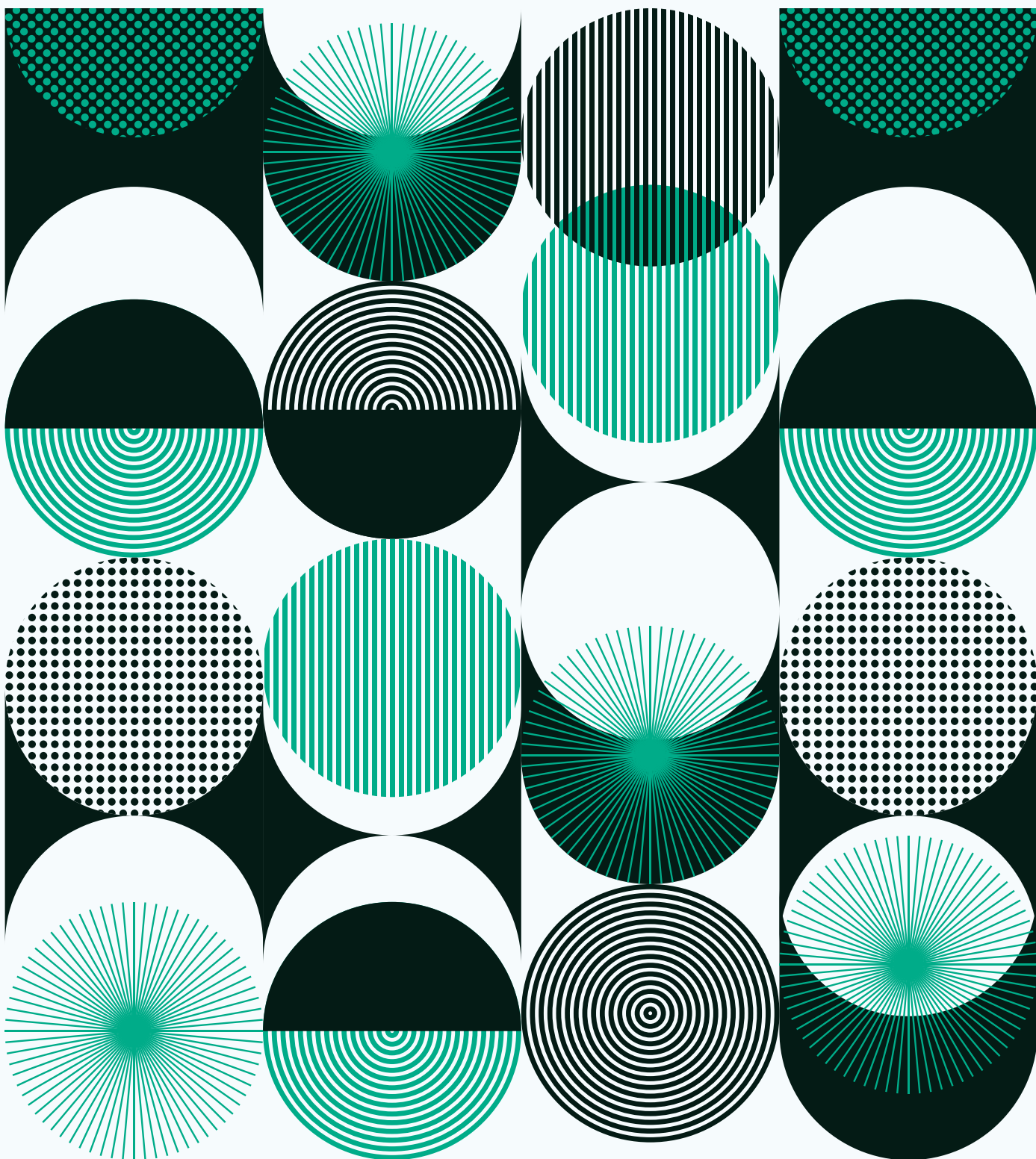


# 2025 Annual Report Cetic.br



## About CGI.br

The Brazilian Internet Steering Committee (CGI.br) was created with the purpose of coordinating and integrating all Internet service initiatives in Brazil, as well as promoting technical quality, innovation, and dissemination of Internet services.

## About NIC.br

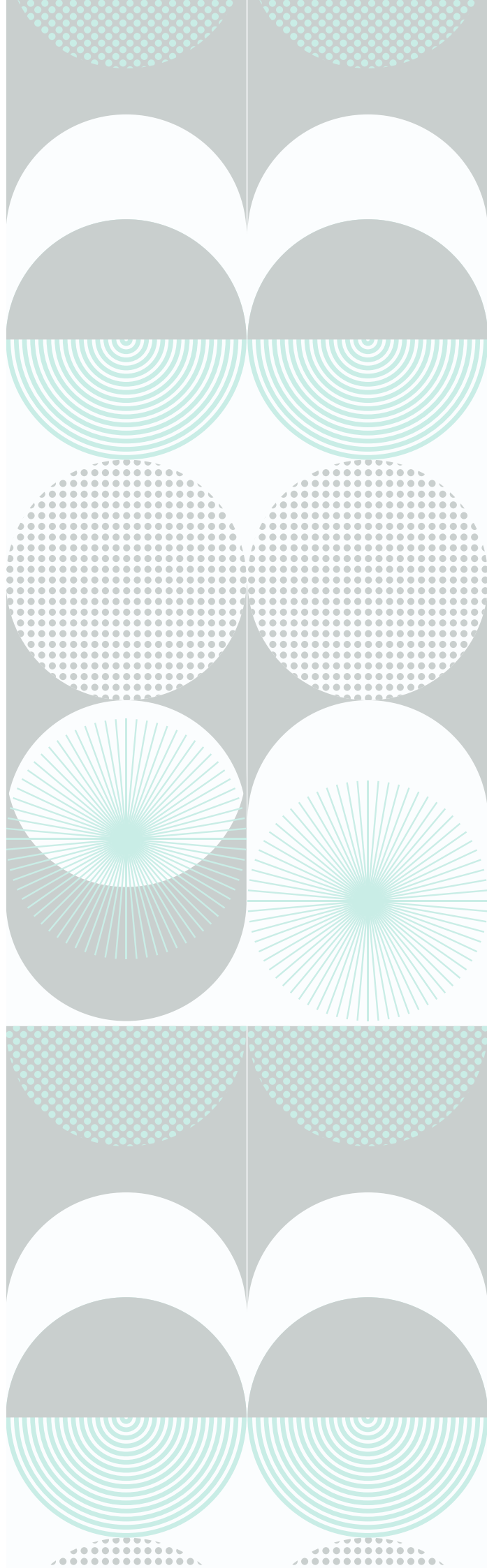
The Brazilian Network Information Center (NIC.br) was created to implement the decisions and projects of CGI.br.

## About Cetic.br

The Regional Center for Studies on the Development of the Information Society (Cetic.br) is the NIC.br department responsible for the production of indicators and statistics on the availability and use of the Internet in Brazil. In 2012, Cetic.br|NIC.br was approved as a UNESCO Category 2 Centre with the mission of monitoring the development of knowledge and information societies in Latin America and the Portuguese-speaking countries of Africa.



CREATIVE COMMONS  
Attribution  
NonCommercial  
NoDerivs  
(CC BY-NC-ND)



# Content

<b>4</b>	.....	Message from the CEO
<b>6</b>	.....	2025 Highlights
<b>11</b>	.....	Publications
<b>32</b>	.....	Public Debates: Advancing Knowledge and Information Societies
<b>37</b>	.....	Capacity-Building & Awareness-Raising
<b>44</b>	.....	Methodological Support on Data Measurement for Strategic Partners
<b>46</b>	.....	Debating the Challenges of ICT Measurement in International Forums: Sharing Experiences with Data Production
<b>48</b>	.....	Accelerating SDG through ICT
<b>52</b>	.....	Cooperation Networks
<b>56</b>	.....	Dialogue with Stakeholders
<b>60</b>	.....	Producing Knowledge about ICT
<b>66</b>	.....	Published Papers

# Message from the CEO

As we present the 2025 Annual Report of the Regional Center for Studies on the Development of the Information Society (Cetic.br|NIC.br), we do so in a year marked by profound transformations in the digital ecosystem. Ongoing discussions on the governance of digital platforms, Artificial Intelligence (AI), and other emerging technologies have moved to the forefront of global agendas, simultaneously exposing persistent gaps in the general understanding of digital infrastructure, especially the Internet itself.

The Internet should be understood as the result of open protocols that enable end-to-end connectivity and seamless interoperability. It is grounded in principles such as openness, neutrality, universality, and multistakeholder governance. These foundations sustain its capacity to foster innovation, social inclusion, and freedom of expression, ensuring that packet flows remain free from arbitrary discrimination. Maintaining clarity about these foundational principles is essential to ensure that legislative and regulatory debates address the behavior of platforms and services without undermining the integrity of the Internet's core technical architecture, which underpins its global reach and societal value.

In response to increasingly complex policy landscapes, the production of reliable data and analysis, supported by multistakeholder cooperation, remains pivotal for informing evidence-based public policies and shaping global digital agendas. This is precisely where the role of Cetic.br|NIC.br becomes indispensable. By systematically producing high-quality, internationally comparable data on access to and use of digital technologies, including emerging digital phenomena such as AI and concepts such as “meaningful connectivity,” Cetic.br|NIC.br fills a critical evidence gap. Our surveys, indicators, and analytical reports translate complex technological and societal dynamics into reliable metrics that inform policymakers,

regulators, industry actors, civil society, and other stakeholders. In doing so, we contribute to strengthening the empirical foundation of public policy debate, enabling decisions to be grounded in robust measurement rather than conjecture.

In 2025, Cetic.br|NIC.br further deepened its engagement in national and international discussions on measurement and indicators to support digital agendas. The Center actively participated in dialogues under the Brazilian presidency of BRICS and Mercosur, with particular emphasis on meaningful connectivity and the pace of AI adoption—topics that have gained increasing relevance in multilateral dialogue on digital transformation and inclusion. These forums have underscored the importance of comparable indicators, shared methodological frameworks, and regional cooperation. By contributing robust empirical evidence and measurement expertise, Cetic.br|NIC.br helps ensure that these agendas are grounded in data that reflect national realities and regional diversity, strengthening the basis for evidence-informed policymaking and cooperative action.

“Meaningful connectivity”—highlighted as a key priority during the G20 Digital Economy Working Group (DEWG) in 2024—continued to guide our analytical work in 2025. Moving beyond basic access, it emphasizes affordability, quality, device adequacy, usage frequency and diversity, and the broader enabling environment required for individuals and organizations to fully benefit from digital technologies. In parallel, Cetic.br|NIC.br has expanded its measurement of AI adoption across sectors such as enterprises, education, health, and government, contributing to the Brazilian Artificial Intelligence Observatory (OBIA) and to international comparative efforts.

The accelerating adoption of AI, data-intensive applications, and digitally mediated services has further reinforced the role of

the Internet as a critical infrastructure for economic development, public service delivery, and social participation. At the same time, it has heightened systemic risks related to safety, security, resilience, and trust in the digital environment. The increasing sophistication and scale of security incidents, combined with the rapid expansion of AI-assisted software development, underscore the need for continuous monitoring, shared responsibility, and coordinated responses across sectors and borders.

In Brazil, the distributed and cooperative cybersecurity model has proven to be a cornerstone of network resilience. Through the activities of CERT.br, maintained by NIC.br, Brazil has enhanced incident response, information sharing, and early detection mechanisms, based on trust, confidentiality, and technical coordination. Measurement, transparency, and capacity building are therefore central to strengthening digital trust.

Equally important is the development of indicators that capture the multiple dimensions and functions of key digital infrastructure, such as data centers, responsible for data processing, storage, and distribution, which underpin virtually all aspects of digital activity, from cloud services and AI workloads to everyday Internet use.

At the same time, assessing information consumption habits and information integrity will be an increasingly important measurement challenge. Understanding how people evaluate accuracy and navigate misinformation requires indicators that go beyond connectivity metrics to encompass digital literacy, trust, and the quality of information.

The capacity of Cetic.br|NIC.br to fulfill its mission is inseparable from the history and institutional model of NIC.br and Registro.br. Since the arrival of the Internet in Brazil in 1989 and the creation of the .br domain, Brazil has built a governance model that combines technical excellence, financial sustainability, and public-interest orientation. Over 35 years, .br has become one of the largest and most trusted country-code top-level domains in the

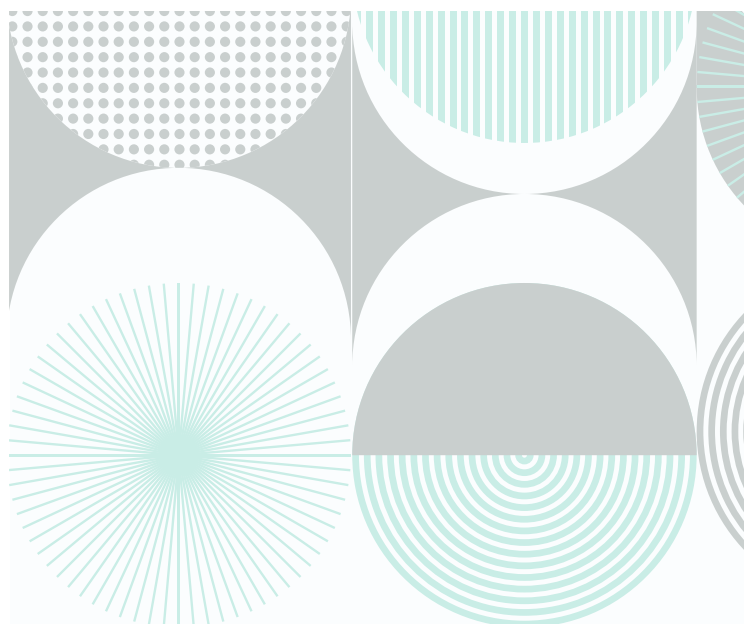
world. Resources generated by Registro.br have enabled sustained investment in Internet infrastructure, research, capacity building, and data production, creating a virtuous cycle that strengthens the national digital ecosystem.

This model supports a unique portfolio of activities, including Internet exchange points (IX.br), IP address distribution, cybersecurity coordination, web standards development, and, through Cetic.br|NIC.br, the systematic production of information and communication technology (ICT) statistics aligned with international standards. Together, these efforts contribute to a robust, inclusive, and future-ready Internet infrastructure, capable of supporting emerging technologies such as AI and data-driven services.

Looking ahead, Cetic.br|NIC.br will continue to advance methodological innovation, expand international cooperation, and deepen engagement with key stakeholders. In a rapidly evolving digital environment, high-quality data, robust institutions, and collaborative governance are indispensable. By transforming data into knowledge, we aim to support sound public policies, foster digital inclusion, and help shape a digital future that is safe, secure, interoperable, and oriented toward sustainable development.

## **Demi Getschko** - CEO

Brazilian Network Information Center (NIC.br)



# 2025 Highlights

In 2025, the Regional Center for Studies on the Development of the Information Society at the Brazilian Network Information Center (Cetic.br|NIC.br) continued to support national and international efforts aimed at strengthening the production of high-quality statistical evidence to monitor the development of the information society. Through the systematic development of internationally comparable ICT data, robust indicators, and sectoral studies, the Center provided evidence to policymaking processes and contributed to national, regional, and global digital agendas. Particular attention was given to digital inclusion, meaningful connectivity, the digital economy, and the adoption of emerging technologies such as Artificial Intelligence (AI) in different segments of society.

Throughout the year, the pace of digital transformation intensified, driven by the widespread diffusion of AI, the growing centrality of digital infrastructures—such as data centers—and the deeper integration of digital technologies into economic, social, and institutional processes. These dynamics continued to reshape socioeconomic structures and increased the demand for reliable and timely data capable of capturing emerging digital phenomena and their broader societal implications.

In response, Cetic.br|NIC.br strengthened its commitment to methodological innovation and the continuous improvement of its data production processes. Building on its established survey processes, the Center advanced the integration of multimethod approaches and the use of nontraditional data sources to address evolving measurement challenges. By combining large-scale quantitative surveys with qualitative analyses and exploratory uses of alternative data sources, Cetic.br|NIC.br enhanced its capacity to capture broader dimensions of the digital transformation.

Throughout 2025, Cetic.br|NIC.br further expanded its analytical portfolio through national

ICT surveys, targeted sectoral studies, and cross-cutting analyses of the Internet ecosystem. This work strengthened the monitoring of digital access and use across population groups and sectors, while deepening understanding of areas where digital transformation presents both opportunities and risks. Emphasis was placed on meaningful connectivity, Artificial Intelligence, digital infrastructures, and information integrity, in alignment with national priorities and international measurement agendas, such as the Global Digital Compact (GDC).

Within this evolving landscape, this section presents a concise overview of Cetic.br|NIC.br's main activities and achievements. It brings together key advances in statistical production, methodological development, analytical outputs, international cooperation, and capacity-building initiatives.

## International Seminar Cetic.br 20 Years: Data and Analysis for an Inclusive Digital Future

A major milestone of 2025 was the International Seminar “Cetic.br 20 Years: Data and Analysis for an Inclusive Digital Future,” which marked two decades of continuous production of ICT statistics in Brazil. The seminar brought together representatives from government, academia, international organizations, civil society, and the private sector to reflect on the challenges of the information society and the role of high-quality data in shaping digital public policies. The event reinforced Cetic.br|NIC.br's institutional trajectory as a UNESCO Category 2 Centre and highlighted its contribution to global measurement agendas.

The program emphasized the centrality of digital inclusion and meaningful connectivity, drawing on long-term evidence generated by Cetic.br|NIC.br's surveys. Discussions addressed persistent structural inequalities related to access, connectivity quality, affordability, and digital skills, underscoring the importance of multidimensional indicators for monitoring progress and informing inclusive digital policies. The seminar also explored the implications of emerging technologies—particularly AI—across social domains such as education, health, work, and children's rights, combining sectoral evidence with governance and ethical perspectives.

In addition, the seminar advanced debates on information integrity, digital government, and the environmental sustainability of digital infrastructures, pointing to new measurement challenges in increasingly complex data ecosystems. While articulating retrospective analysis with forward-looking agendas, the International Seminar also helped the Center to define priorities for future research and policy-oriented data production aimed at building more equitable and resilient digital societies.

## Measuring the Information Society: National ICT Surveys

In 2025, Cetic.br|NIC.br continued to conduct ICT measurement projects through national and stand-alone ICT surveys. A total of 53,842 interviews were conducted, supported by 467 field interviewers and 41 field coordination supervisors, ensuring robust coverage, methodological consistency, and statistical quality. These efforts resulted in the publication of 636 indicators, providing detailed and disaggregated data on access to, use of, and appropriation of digital technologies by households, individuals, enterprises, schools, healthcare facilities, and public administration.

The surveys continued to inform national and international debates on digital inclusion, highlighting advances in access while also

revealing persistent gaps related to connectivity quality, digital skills, data protection, and the use of advanced technologies such as AI. Expert meetings associated with survey cycles—such as those related to ICT Households, ICT in Health, ICT in Government, ICT Providers, and ICT in Education—played a key role in refining questionnaires, integrating new indicators, and ensuring alignment with international statistical standards and recommendations.

## Sectoral Studies and the Internet Sectoral Overview Report

In addition to the national surveys, Cetic.br|NIC.br published one NIC.br Sectoral Study on the topic of AI in education and four editions of the Internet Sectoral Overview (ISO) report. The NIC.br Sectoral Study *Artificial Intelligence in Education: Uses, Opportunities, and Risks in the Brazilian Context* examined why AI is used in teaching and learning, for what purposes, and how teachers and students apply it in practice. The analysis is based on two qualitative research strands: in-depth interviews with experts from the public sector, civil society, academia, the private sector, and school management to assess the current landscape and future directions of AI in education in Brazil; and focus groups with upper secondary teachers and students from public and private schools to identify existing AI uses and related skills.

The four 2025 ISO editions addressed key issues: (a) digital infrastructure: advances and challenges for universal connectivity; (b) technologies for sustainability; (c) digital skills and challenges of measurement; and (d) the data center agenda in Brazil.

These publications deepened the analysis of strategic themes such as meaningful connectivity, AI adoption, digital government, and sector-specific uses of ICT. The sectoral approach enabled a more nuanced understanding of how digital transformation shapes different areas of social and economic life.

Particular attention was given to emerging measurement frontiers, including the AI use across sectors, new approaches to assessing the social and economic impacts of digital technologies, and the growing relevance of digital infrastructure. The analyses produced by the NIC.br Sectoral Studies and ISO continued to provide cross-cutting perspectives on trends, challenges, and policy implications, reinforcing the Center's role as a bridge between statistical evidence and strategic digital policy discussions.

## Engaging in the Public National and International Debate

Throughout 2025, Cetic.br|NIC.br actively contributed to national and international policy and academic debates, participating in 134 events and expanding the reach and impact of its data and analyses. The Center engaged in high-level forums, including the Internet Governance Forum (IGF), the Latin American and Caribbean IGF (LACIGF), and meetings organized by the OECD, ITU, and UNESCO, as well as leading academic conferences in statistics and data governance. It also participated in regional forums, including those organized by BRICS and the dialogues on Mercosur's digital agenda, held in collaboration with the Ministry of Foreign Affairs. These engagements strengthened Brazil's contribution to global discussions, while reinforcing cooperation with international organizations, regulators, national statistical offices, and research networks.

At the national level, Cetic.br|NIC.br organized and supported a wide range of public events and expert meetings involving government representatives, academia, the private sector, civil society, and international organizations. These initiatives fostered interdisciplinary and multistakeholder dialogue and frequently accompanied the release of new publications, serving as platforms for critical reflection on the

impacts of digital technologies. Through these efforts, Cetic.br|NIC.br promoted transparency in data production processes and strengthened its role as a catalyst for public dialogue.

## Capacity-Building Initiatives

Capacity building remained a central pillar of Cetic.br|NIC.br's mission in 2025. At the regional level, the School of Digital Transformation and Innovation in the Caribbean and Latin America further strengthened cooperation by promoting dialogue on meaningful connectivity, digital infrastructure, and cybersecurity. This important capacity-building initiative was led through a cooperative effort involving United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC), Development Bank of Latin America and the Caribbean (CAF), The Internet Technical Community (CTI), and Cetic.br|NIC.br<sup>1</sup> (which brings together organizations involved in the operation and development of Internet infrastructure). Complementing these efforts, the Center organized the 15th NIC.br Annual Workshop on Survey Methodology, bringing together national and international experts to discuss innovative approaches to data collection, integration, and analysis. The Center also expanded its portfolio of training activities, including supporting Massive Open Online Courses (MOOC) on digital transformation and AI governance, in partnership with UNESCO, as well as hosting the training program "Artificial Intelligence for the Public Sector," delivered under the ITU Academy's capacity development activities.

International training activities, including regional schools on digital transformation, ITU- and UNESCO-led courses, and workshops held across Latin America, the Caribbean, and Portuguese-speaking African countries, contributed to strengthening technical capacities for ICT statistics production and digital policy analysis.

---

1 The complete list of organizations is available at: <https://www.lacnic.net/491/1/lacnic/casa-de-internet>.

## Looking Ahead

Cetic.br|NIC.br has incorporated new priorities into its measurement agenda, including the assessment of data centers and digital infrastructure, recognizing their growing importance for cloud services, AI workloads, energy consumption, and environmental sustainability. In parallel, the Center will advance research on information integrity, developing indicators that capture access to information practices, levels of trust, and the resilience of individuals to deal with disinformation and misinformation in platform-mediated digital environments.

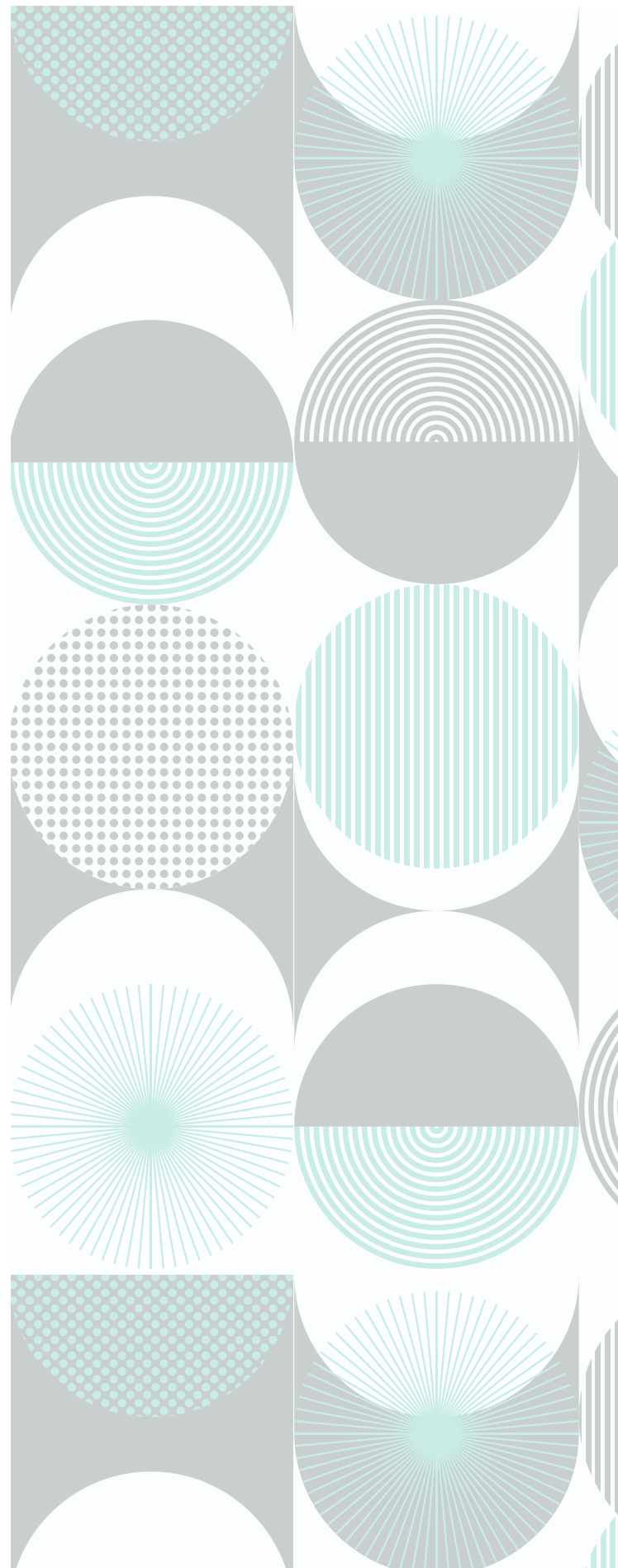
Cetic.br|NIC.br will also expand its analytical agenda on the societal impacts of digital technologies, with particular emphasis on AI and the future of work, exploring implications for labor markets, skills development, organizational practices, and productivity. These efforts will be complemented by analytical work on the environmental sustainability dimensions of digital transformation, including the potential effects of digital infrastructures and the role of digital technologies in supporting climate and environmental action.

As digital transformation continues to reshape societies and economies, Cetic.br|NIC.br will sustain and expand collaboration with international organizations and regional partners, reinforcing shared approaches to ICT measurement and analysis. Through the production of robust and internationally comparable data, the Center will continue to support evidence-based policymaking and contribute to the advancement of more inclusive, resilient, and sustainable digital societies.

“*In a year marked by rapid digital transformation and growing policy complexity, Cetic.br|NIC.br strengthened the evidence base for inclusive and sustainable digital development by advancing ICT measurement, methodological innovation, and international cooperation.*”

### Alexandre Barbosa

Head of the Regional Center for Studies on the Development of the Information Society (Cetic.br|NIC.br)



# 2025 Facts & Figures

**467**

Field interviewers involved  
in data collection

**45**

Field coordination  
supervisors

**14**

Publication of ICT surveys,  
NIC.br Sectoral Studies & Internet  
Sectoral Overview

**53,284**

Interviews carried out in all  
of Cetic.br|NIC.br's surveys

**631**

Indicators published

**248**

External experts involved  
in ICT survey projects

**10**

Expert meetings  
(multistakeholder groups)

**6,088**

Media appearances

**1**

New cooperation agreement  
signed in 2025

**9**

Cooperation agreements  
in force

**12,281**  
views

Webinars and public debates  
organized by Cetic.br|NIC.br

**297**  
participants

Capacity-building and workshops  
on research methodologies<sup>2</sup>

2 The participants were enrolled in the following capacity-building workshops: "NIC.br Annual Workshop on Survey Methodology," "School of Digital Transformation in America Latina," "School of Digital Transformation in the Caribbean," and "ITU Academy course on AI for the Public Sector."

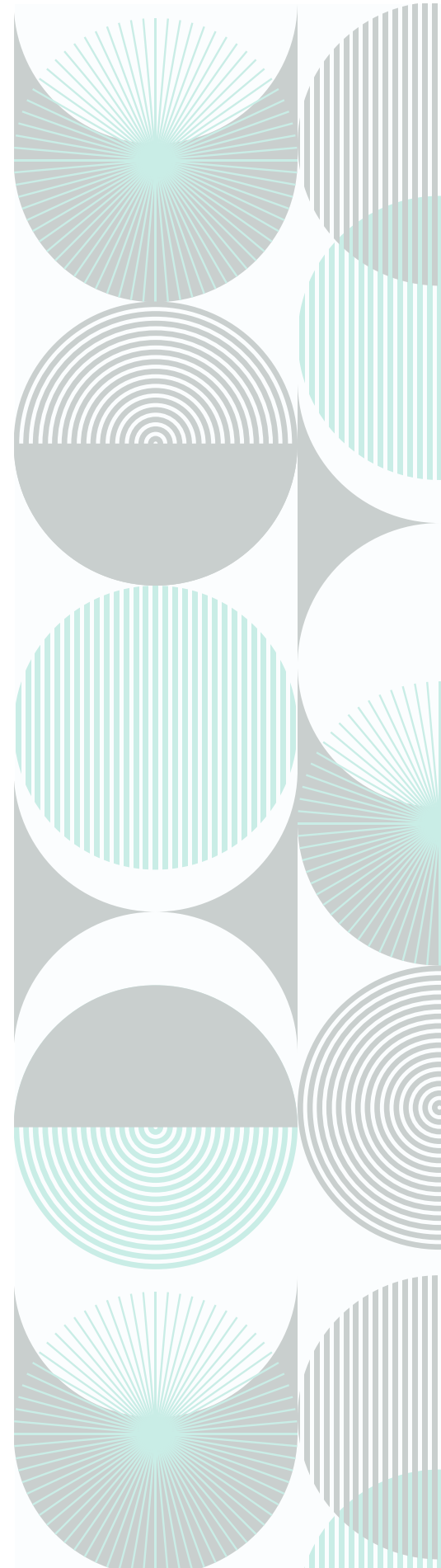
# Publications

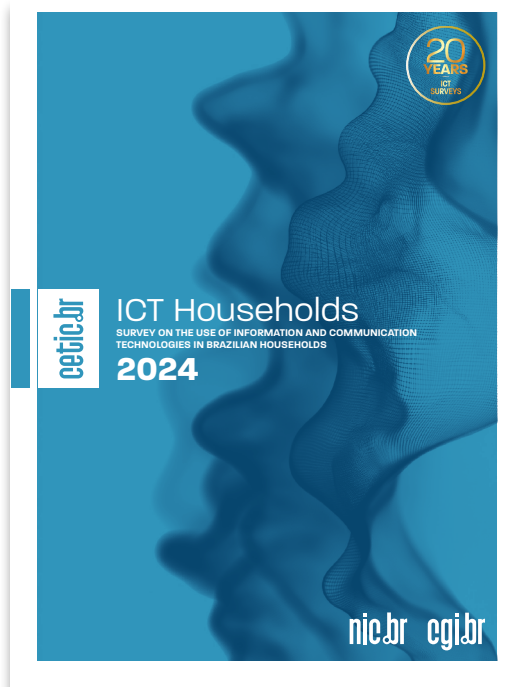
The production of high-quality statistical data to monitor access to and use and appropriation of information and communication technologies (ICT) is a central activity developed by Cetic.br|NIC.br. The Center carries out a set of five annual ICT survey projects—related to households, education, health, enterprises, and children—in addition to regular surveys with other periodicities, related to electronic government, cultural facilities, nonprofit organizations, and Internet service providers. Besides regular surveys, Cetic.br|NIC.br publishes other studies related to the challenges to digital technology adoption among individuals and organizations, using quantitative and qualitative approaches. These projects cover critical areas for monitoring the development of knowledge and information societies, while also generating relevant data for monitoring the Sustainable Development Goals (SDG) and targets defined by the United Nations (UN) in its 2030 Agenda for Sustainable Development.

---

## Publications index

- 12**.....ICT Households
- 14**.....ICT Kids Online Brazil
- 16**.....ICT in Education
- 18**.....ICT in Health
- 20**.....ICT Enterprises
- 22**.....ICT Providers
- 24**.....ICT in Culture
- 26**.....ICT Statistics for Children 0 to 8 Years Old
- 28**.....Internet Sectoral Overview
- 30**.....NIC.br Sectoral Studies
- 31**.....Other ICT Survey Projects





## ICT Households

Carried out annually since 2005, the ICT Households survey aims to measure ICT use in Brazilian households, individual access to computers and the Internet, and activities developed online, among other indicators.

In its 20th edition, the survey featured new data on meaningful connectivity for the Brazilian population. The results showed that there is still a significant portion (specially individuals in classes DE, those living in rural areas, and those in the North) that does not use the Internet, as well as people who use it in a more limited way, carrying out a narrower range of activities. Also in this edition, the full versions of the electronic government (e-government) and electronic commerce (e-commerce) modules, which had last entered the field in 2022, were administered. Interviews were carried out in 23,856 households and with 21,170 individuals between March and August 2024.

Since the 2015 edition, all of the ICT Households microdatabases and documentation have been available for download on Cetic.br|NIC.br's website.

---

### Articles published in ICT Households 2024

**Meaningful connectivity and disinformation:  
Which competencies and knowledge are  
needed in the age of generative AI?**

Danielle Sanches & Paula Menezes

**Digital public infrastructure:  
New challenges for democratic governance**

José Carlos Vaz & Fernanda Campagnucci

**How to ensure the online safety and digital  
care of community network users**

Bruna Zanolli

**Information and communication technologies  
and just climate governance in Brazil:**

**Inspiration from the Amazon**

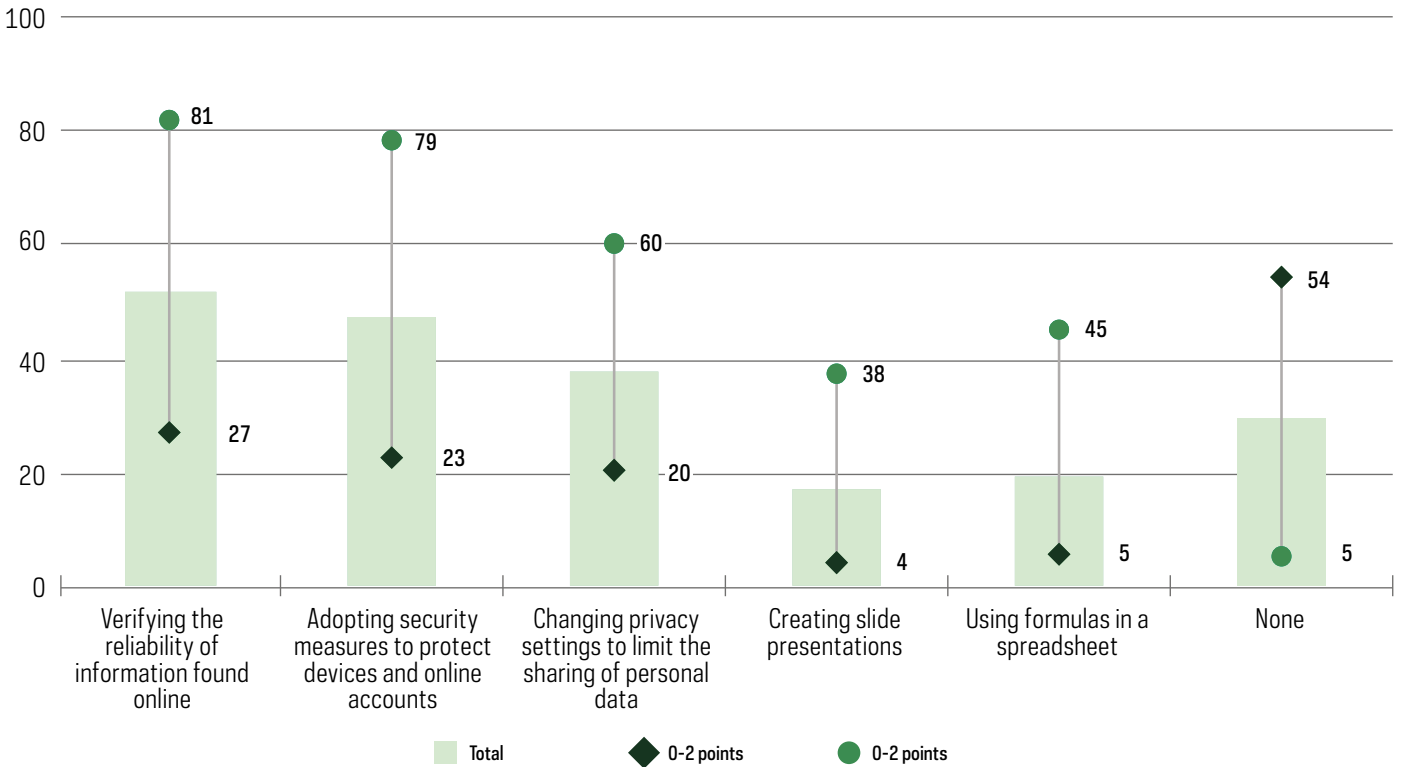
Coalizão Tecnopolíticas Pan-Amazônicas





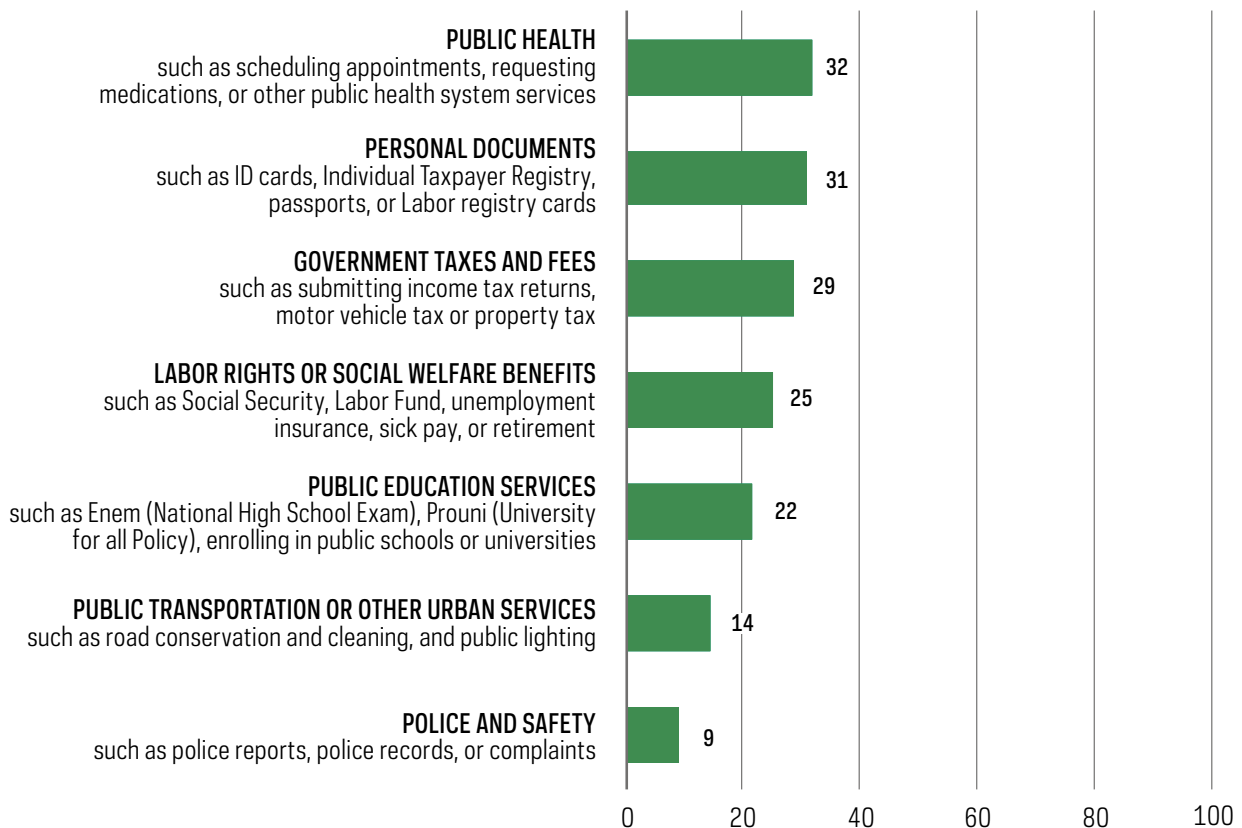
**INTERNET USERS BY SELECTED DIGITAL SKILLS AND LEVEL OF MEANINGFUL CONNECTIVITY (2024)**

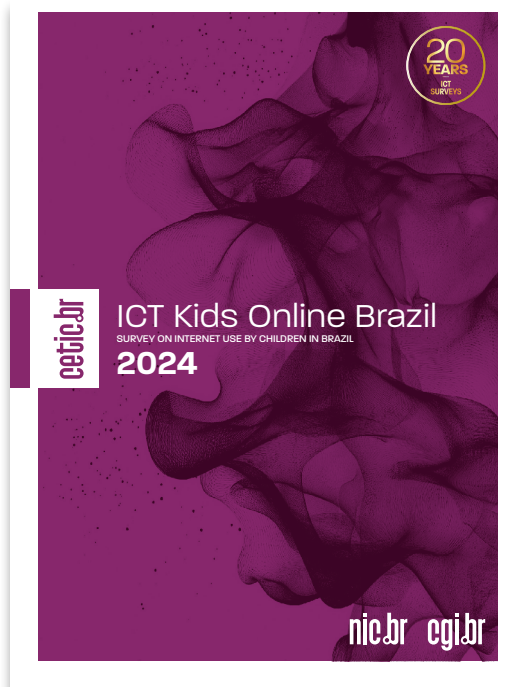
Total number of Internet users (%)



**INTERNET USERS BY TYPE OF INFORMATION REGARDING PUBLIC SERVICES SOUGHT OR PUBLIC SERVICE USED IN THE LAST 12 MONTHS (2024)**

Total number of Internet users 16 years old or older (%)





## ICT Kids Online Brazil

The goal of the ICT Kids Online Brazil survey is to understand how children 9 to 17 years old use the Internet and how they deal with related risks and opportunities. It is fully aligned with the methodological framework of the Global Kids Online network and the Latin America Kids Online network.

For the first time, in the 2024 edition, data were collected on the frequency of use and whether children had profiles on digital platforms. Also for the first time, the survey investigated parents' and legal guardians' perceptions of requests for help with Internet use by children, in addition to the adoption of technical resources for parental mediation. The results indicate that almost all children 9 to 17 years old are frequent Internet users in Brazil, but access conditions are not the same for everyone, especially for those with disadvantaged socioeconomic backgrounds. The data collection period was from March to August 2024. The survey interviewed 2,424 children and 2,424 parents or legal guardians nationwide.

Since the 2015 edition, the microdatabases and documentation of the ICT Kids Online Brazil survey have been available for download on Cetic.br|NIC.br's website.

---

### Articles Published in ICT Kids Online Brazil 2024

**Protection of children on the Internet:  
A comparative analysis of social media**  
Isabella Henriques & Emanuella Ribeiro

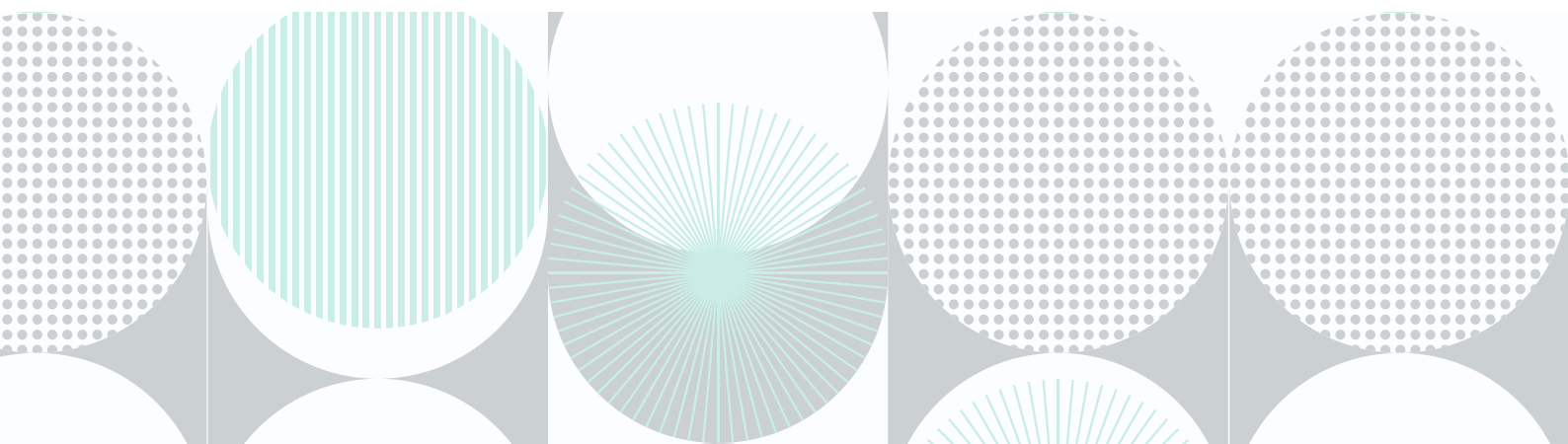
**Measurement of children's screen time:  
Current challenges and future directions**  
Maíra Lopes Almeida, Gabriel Alves Finotti  
Camardelli de Azeredo, Amanda Lima Duarte,  
Lauren Simão Dias, & Walter Ferreira Rocha Filho

**Digital education is a constant effort:  
Reflections on parental mediation in  
children's use of social media**

Bernardo Bueno, Laura Magalhães Moreira,  
Juliana Potter, Aline Restano,  
& Daniel Tornaim Spritzer

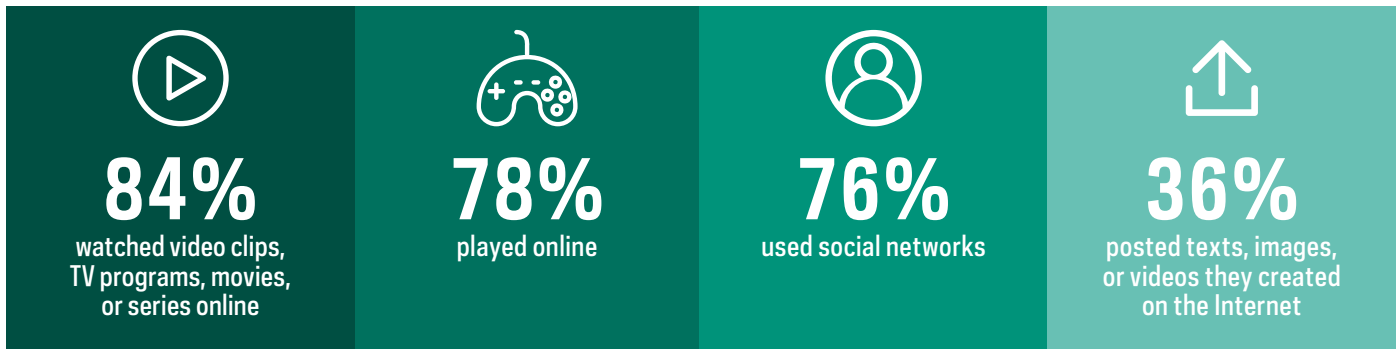
**Opportunities, risks, and harms  
in digital games**  
Ivelise Fortim

---



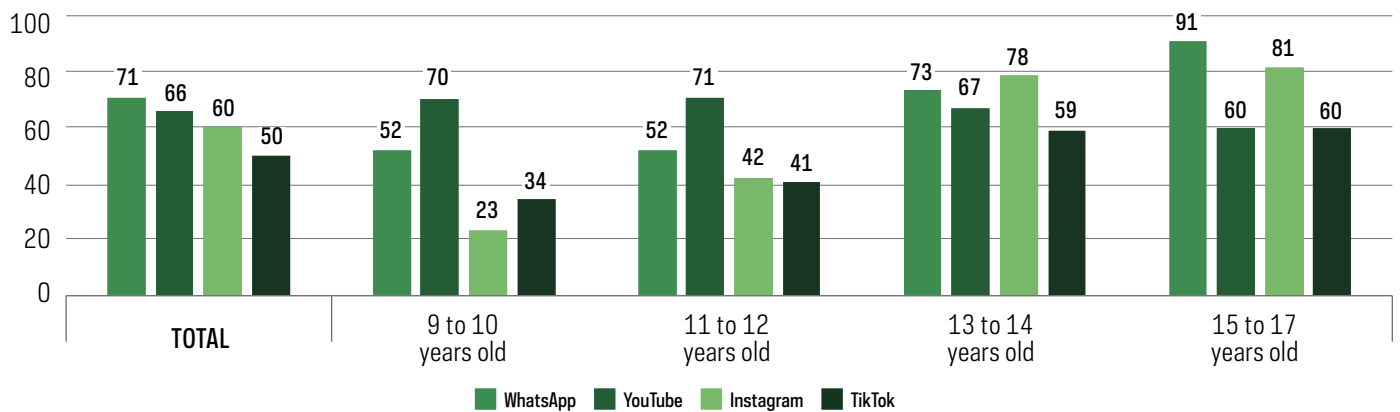
81% of users 9 to 17 years old reported having their own mobile phone

OF THE INTERNET USERS 11 TO 17 YEARS OLD ...



CHILDREN BY FREQUENCY\* OF DIGITAL PLATFORM USE (2024)

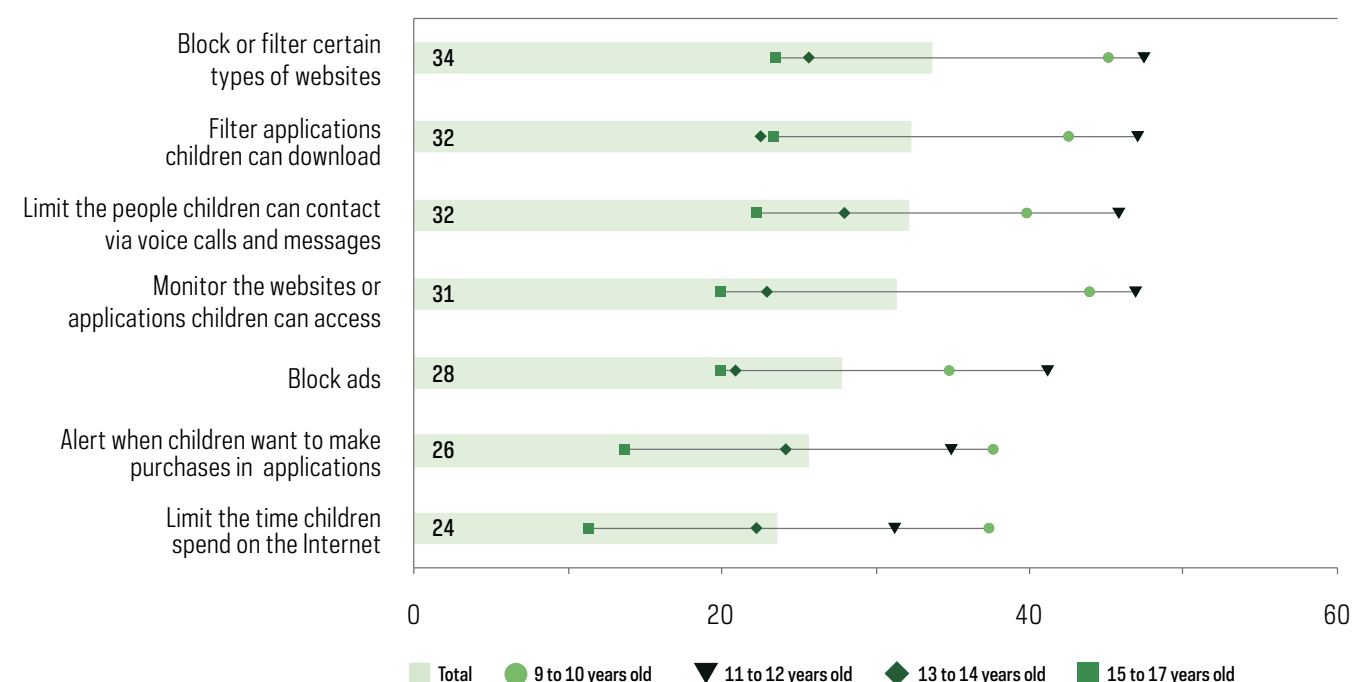
Total number of Internet users 9 to 17 years old (%)

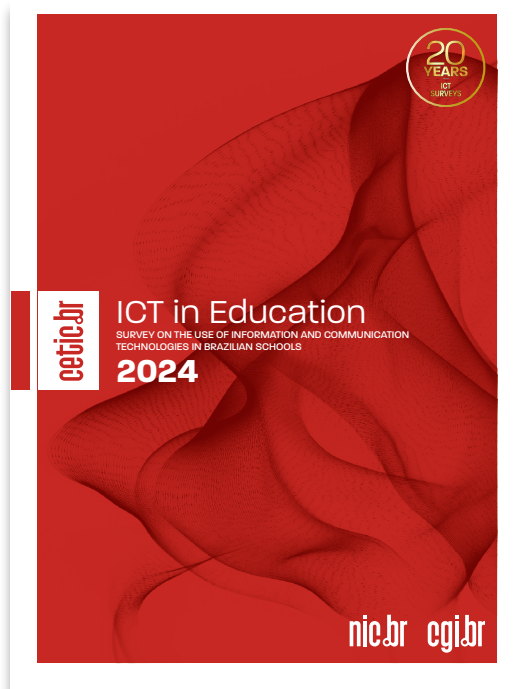


\*"Several times a day" or "Every day or almost every day"

TECHNICAL RESOURCE FOR MEDIATING THE USE OF THE INTERNET BY CHILDREN, AS REPORTED BY PARENTS OR LEGAL GUARDIANS (2024)

Total number of Internet users 9 to 17 years old (%)





## ICT in Education

Carried out annually since 2010, the ICT in Education survey aims to investigate ICT access, use, and appropriation by students, educators, and school managers in Brazilian public and private primary and secondary educational institutions located in urban and rural areas.

The 15th edition of the ICT in Education survey showed that Internet access in basic education schools has advanced over the last five years, including in regions far from large urban centers, in smaller institutions, and in those serving students in the initial years of primary education. Despite these advances, the results of this edition of the survey draw attention to challenges related to the quality and maintenance of the devices available in schools. The survey also identified a trend toward adopting strategies to disconnect and restrict the use of digital technologies as a way of dealing with the impacts of information disorder, persuasive and manipulative design, increased surveillance, and inappropriate data processing in digital environments. Data collection took place between August 2024 and March 2025. Interviews were carried out with 7,476 students, 1,462 teachers, 864 directors of studies, and 954 school managers.

---

### Articles published in ICT in Education 2024

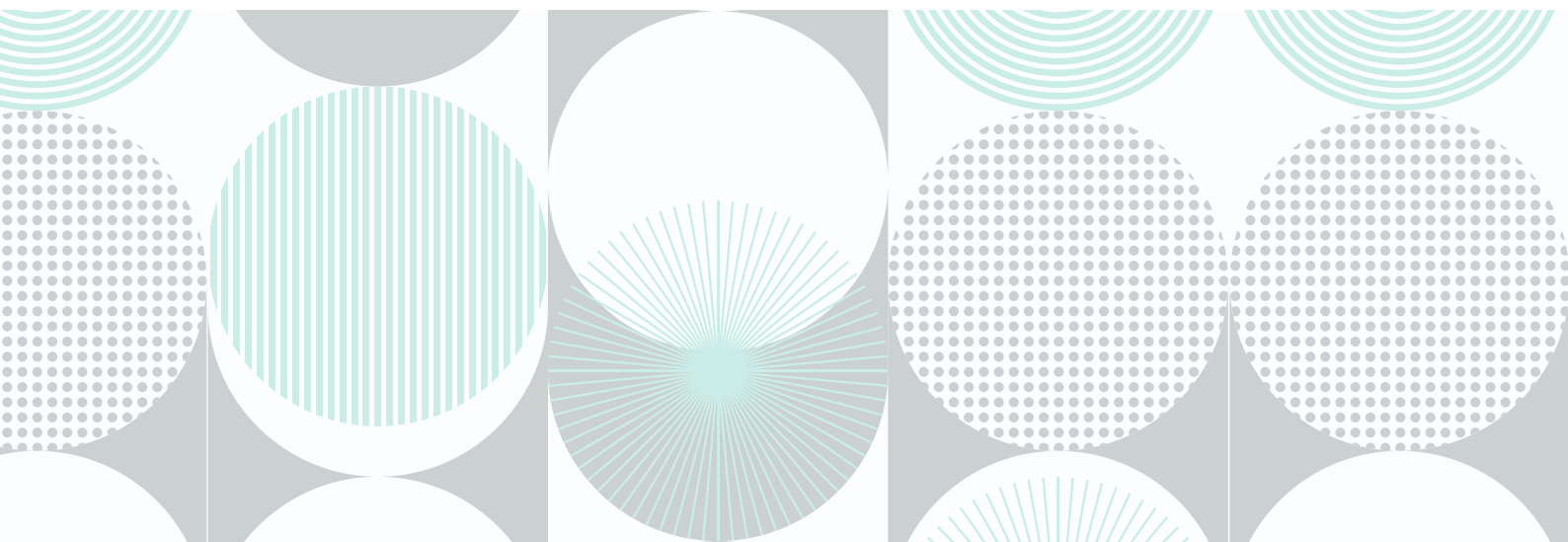
**Digital education beyond mobile phones: Diversifying languages for digital emancipation—from multiple childhoods to adolescences**  
Regina de Assis, Rodrigo Nejm, & Diana Silva

**AI in the classroom: Building models for children's participation in the selection of EdTech services in Brazil**  
Eduardo Mendonça, Júlia Mendonça, & Marina Meira

**Open schooling and links between universities, Basic Education, technology, and society for sustainable development**  
Maria Elizabeth Bianconcini de Almeida, Priscila Costa Santos, Irani Ferreira da Silva Gerab, Ana Paula Soares de Farias, & Gerlane Romão Fonseca Perrier

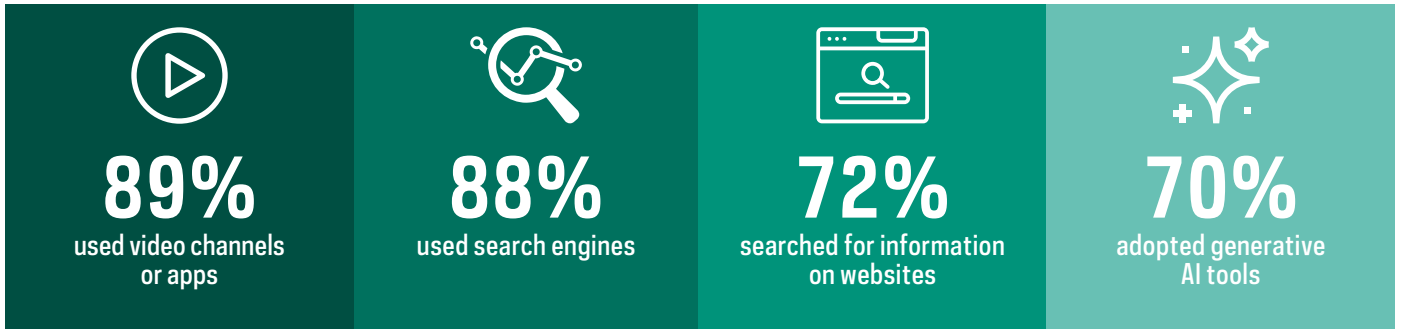
**The importance of assistive technologies in inclusive education: Building an accessible future**  
Erika Neder dos Santos

---



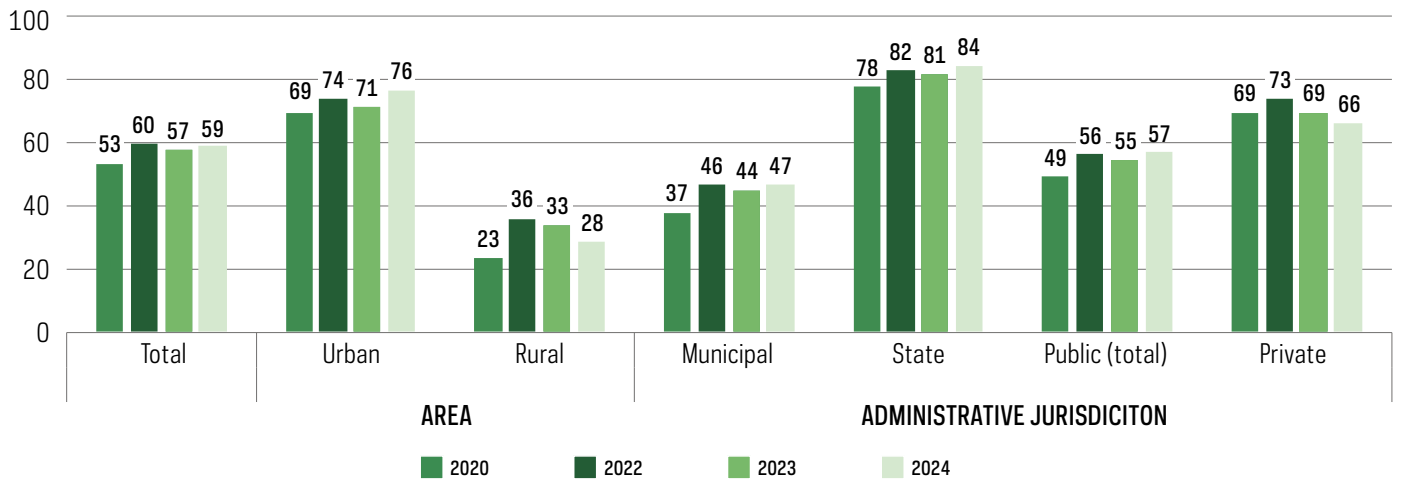
75% of students who used the Internet said they accessed it at school

AMONG UPPER SECONDARY SCHOOL STUDENTS WHO SOUGHT INFORMATION FOR SCHOOL RESEARCH...



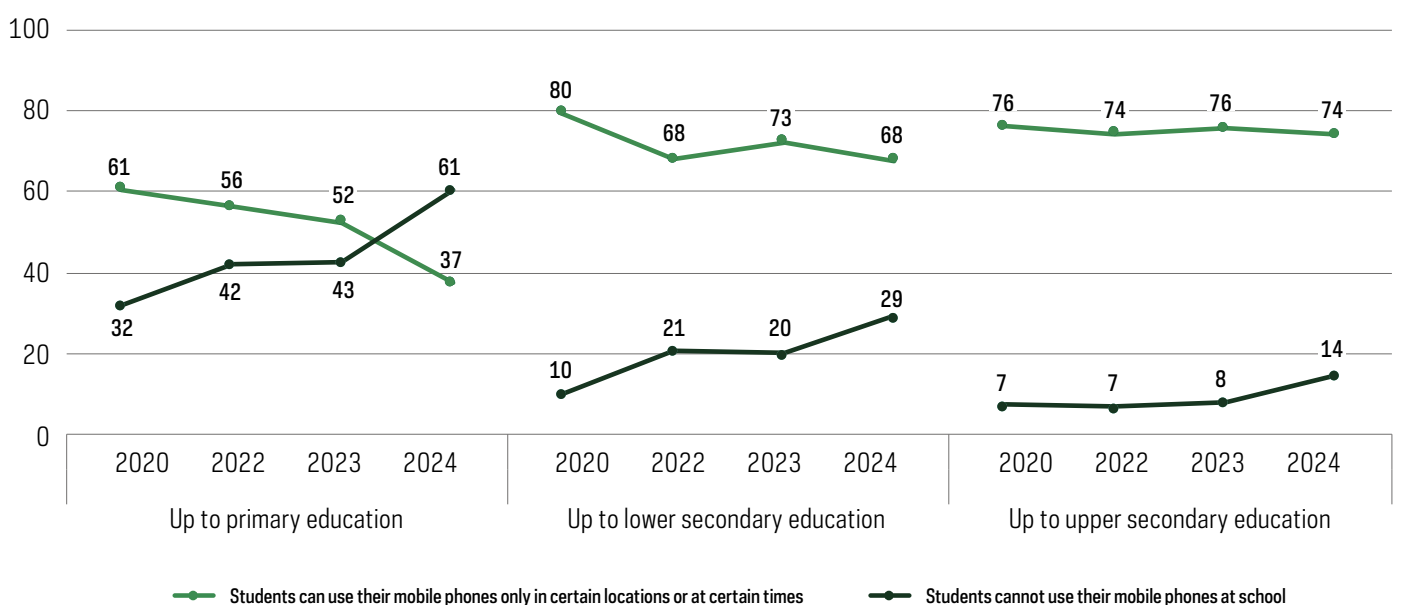
SCHOOLS WITH COMPUTERS AND INTERNET ACCESS FOR STUDENT USE, BY AREA AND ADMINISTRATIVE JURISDICTION (2020-2024)

Total number of primary and secondary education schools (%)



SCHOOLS BY CRITERIA FOR STUDENTS' USE OF MOBILE PHONES AT SCHOOL AND HIGHEST LEVEL OF EDUCATION OFFERED (2020-2024)

Total number of primary and secondary education schools (%)





## ICT in Health

Since 2013, the ICT in Health survey has been conducted to produce indicators on the adoption of ICT in Brazilian healthcare facilities and their usage by healthcare professionals such as physicians and nurses.

In its 11th edition, the survey presents data collected from managers and professionals in healthcare facilities (physicians and nurses), highlighting unprecedented indicators on training in health informatics, the use of generative AI, and the provision of electronic devices by facilities. Among the main results are the universalization of Internet access in healthcare facilities and by physicians and nurses, and progress in the use of electronic devices, the adoption of electronic systems, and telehealth services. However, the use of AI is still limited, with adoption restricted to a few facilities and a small number of professionals. Data was collected using telephone interviews and a web questionnaire with 2,057 managers and 2,021 professionals between February and August 2024.

---

### Articles published in ICT in Health 2024

#### **Assessment of digital health information systems**

Heimar F. Marin, Karapet Davtyan, & David Novillo-Ortiz

#### **Algorithmic generalization in digital health: Challenges for integrated health in different Brazilian regions**

Carine Savalli & Alexandre Dias Porto Chiavegatto Filho

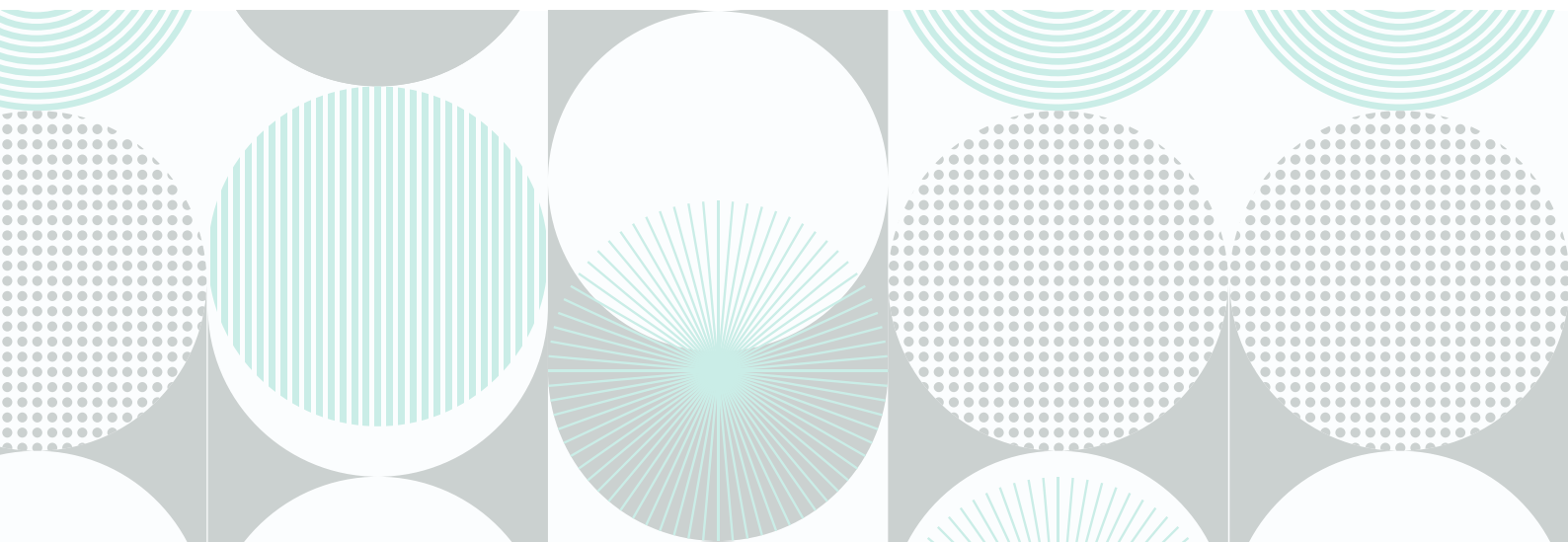
#### **Precision oncology's path in low- and middle-income countries: From challenge to opportunity using medical informatics**

Yuri Quintana & Gyana Srivastava

#### **Digital transformation: Contributions from the São Paulo Regional Nursing Council**

Rodrigo Jensen, Heloisa Helena Ciqueto Peres, Denise Maria de Almeida, Neurilene Batista de Oliveira, Osmeire Aparecida Chamelette Sanzovo, Raquel Acciarito Motta, & Roberta Rubia de Lima

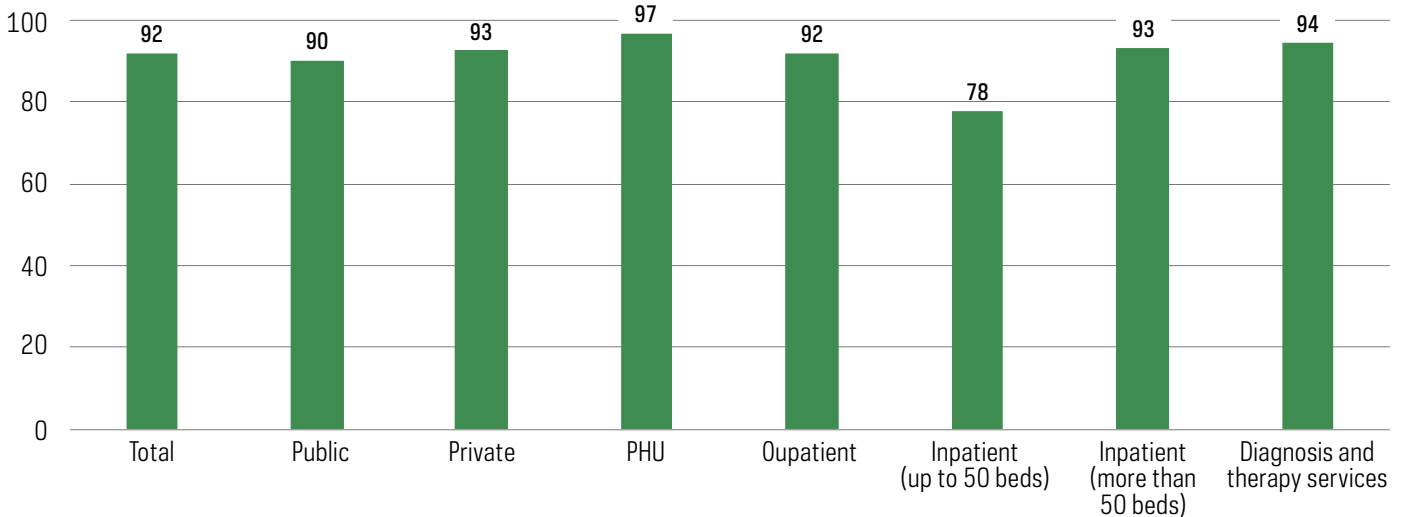
---



The **use of AI** in Brazilian healthcare facilities is still limited, being present in **only 4%**. Adoption was higher in inpatient facilities with more than 50 beds (16%) and in those with diagnosis and therapy services (SADT) (7%). In addition, the use of AI was **higher in private facilities (6%)** compared to public ones (1%).

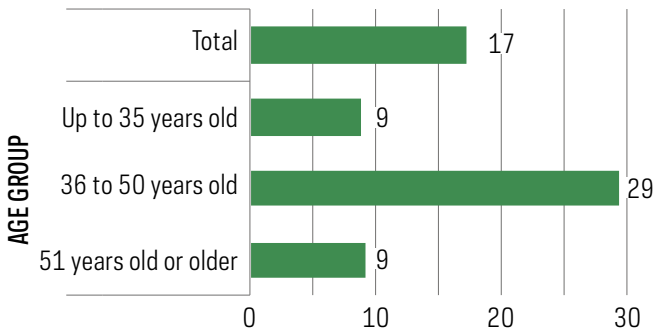
### HEALTHCARE FACILITIES BY AVAILABILITY OF ELECTRONIC SYSTEMS TO RECORD PATIENT INFORMATION (2024)

Total number of healthcare facilities that used the Internet in the last 12 months (%)



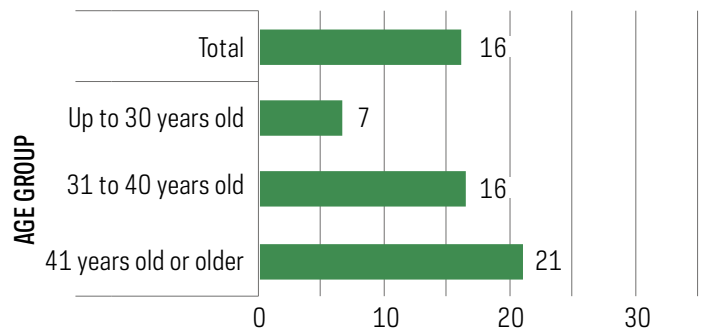
### PHYSICIANS BY USE OF GENERATIVE AI RESOURCES (2024)

Total number of physicians with computer access in the healthcare facilities (%)



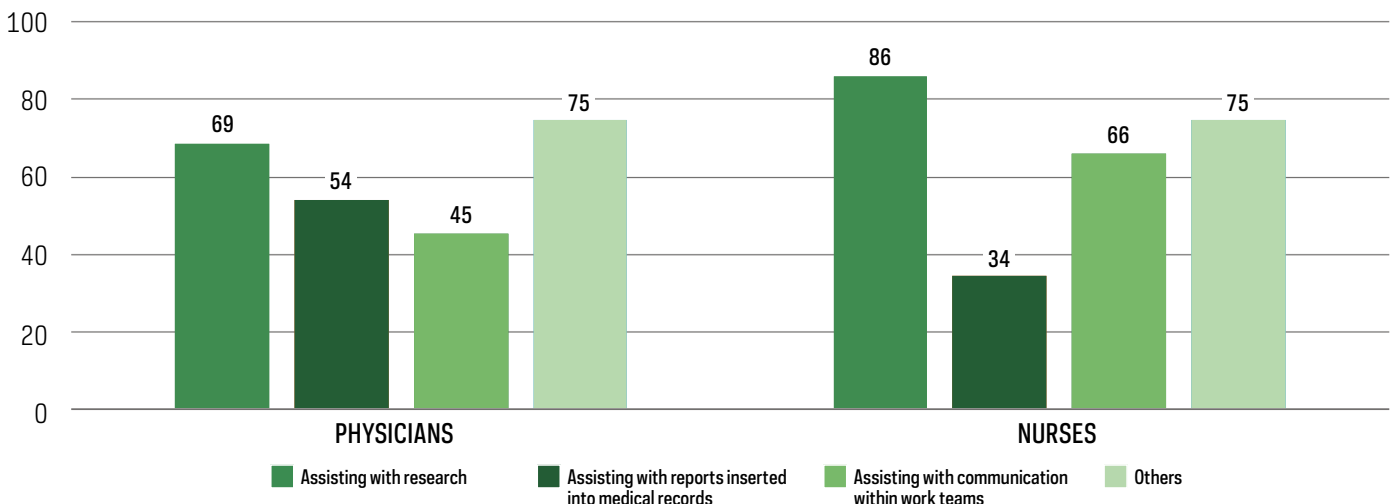
### NURSES BY USE OF GENERATIVE AI RESOURCES (2024)

Total number of nurses with computer access in the healthcare facilities (%)



### PHYSICIANS AND NURSES BY TYPES OF USE OF GENERATIVE AI (2024)

Total number of physicians and nurses with computer access in the healthcare facilities (%)





## ICT Enterprises

Since 2005, the ICT Enterprises survey has been conducted to measure the adoption of ICT in enterprises with ten or more employed persons. Its objective is to investigate access to infrastructure, as well as use and appropriation by the private sector of new technologies, mapping their perceptions of associated benefits.

In its 16th edition, the survey deepens the investigation into the state of the digital economy in Brazil, exploring aspects of enterprises' connectivity, their online operations, and electronic commerce. In addition, it provides indicators of the use of advanced technologies, such as the Internet of Things (IoT) and AI. The results showed that Brazilian enterprises are struggling to diversify their online presence and make progress in adopting those technologies. Data collection for the ICT Enterprises 2024 survey, conducted by telephone, took place between March and November 2024 and included 4,453 enterprises nationwide.

---

## Articles published in ICT Enterprises 2024

### **International benchmarking of practices for the digitalization of small industrial enterprises**

Néstor Fabián Ayala, Jéssica de Assis Dornelles, Joyce Danielle de Araújo, & Alejandro Germán Frank

### **Technology adoption and professional qualification: An analysis of the progress of digital transformation in Brazil**

Cícero Augusto Silveira Braga, Yuri Oliveira de Lima, Inês Filipa Pereira, Antônio Etevaldo Teixeira Junior, & Bruno Pereira Pinto

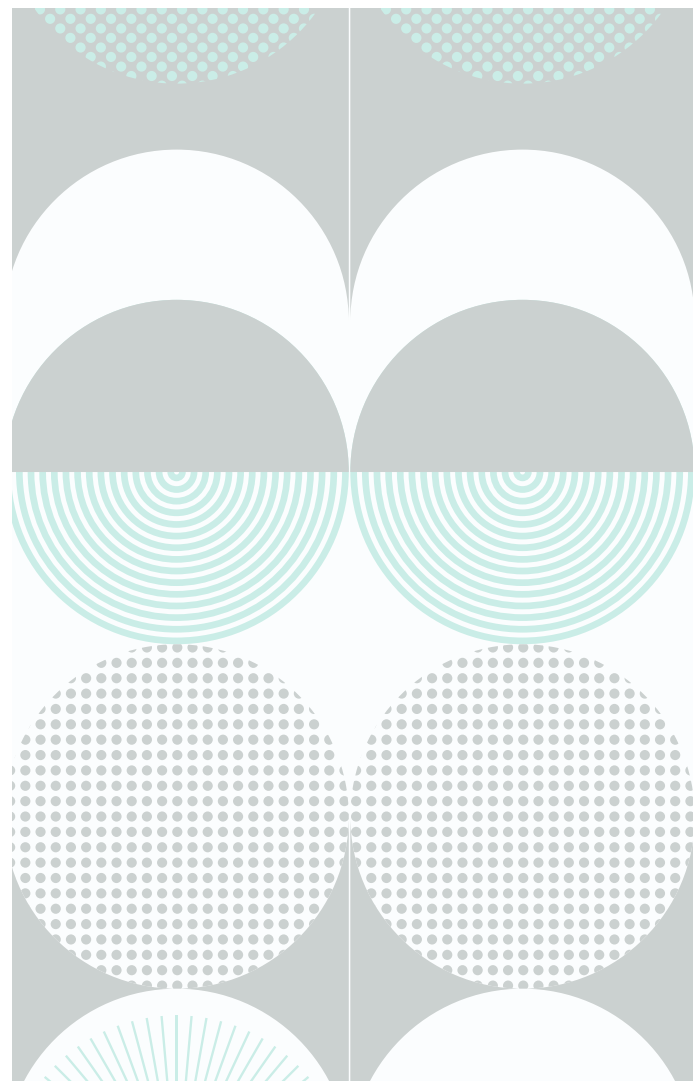
### **Social networks, training, and strategies for adopting digital technologies**

Emerson Gomes dos Santos & Márcia Siqueira Rapini

### **Artificial Intelligence and privacy: Assessing the risks and potentials**

Karina Kaehler Marchesin

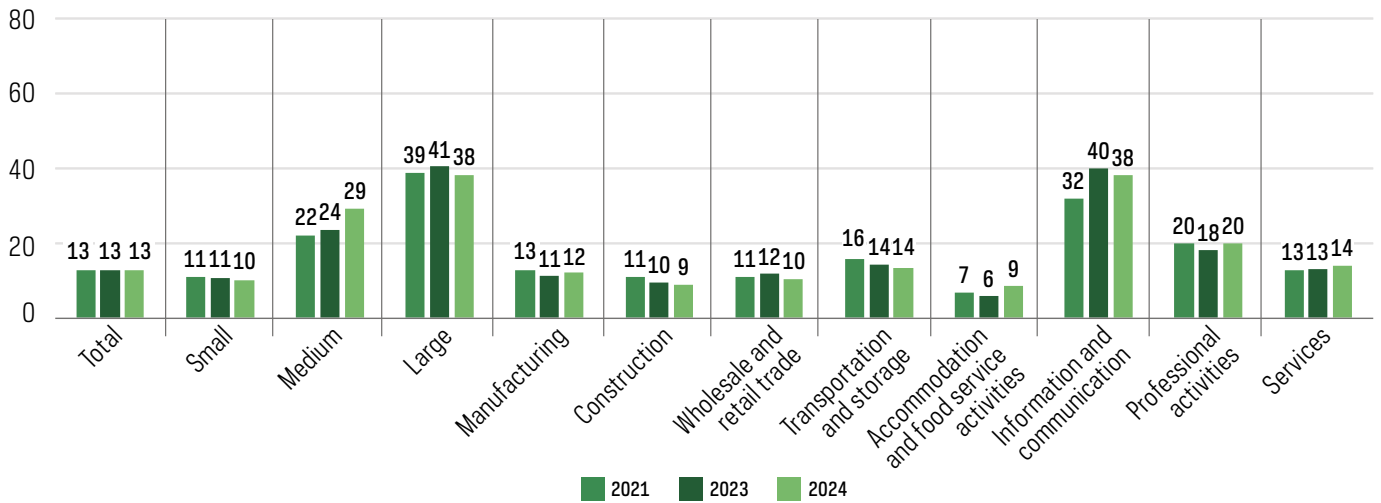
---




The estimated total number of enterprises that used **AI applications** in Brazil is **65,529**


**ENTERPRISES THAT USED AI TECHNOLOGIES, BY SIZE AND MARKET SEGMENT (2021-2024)**

Total number of enterprises (%)







Approximately **70,546** enterprises are estimated to have used smart or IoT devices in Brazil



Of the enterprises with IT departments or IT specialists that did not use AI, **19%** said it was due to incompatibility with existing equipment



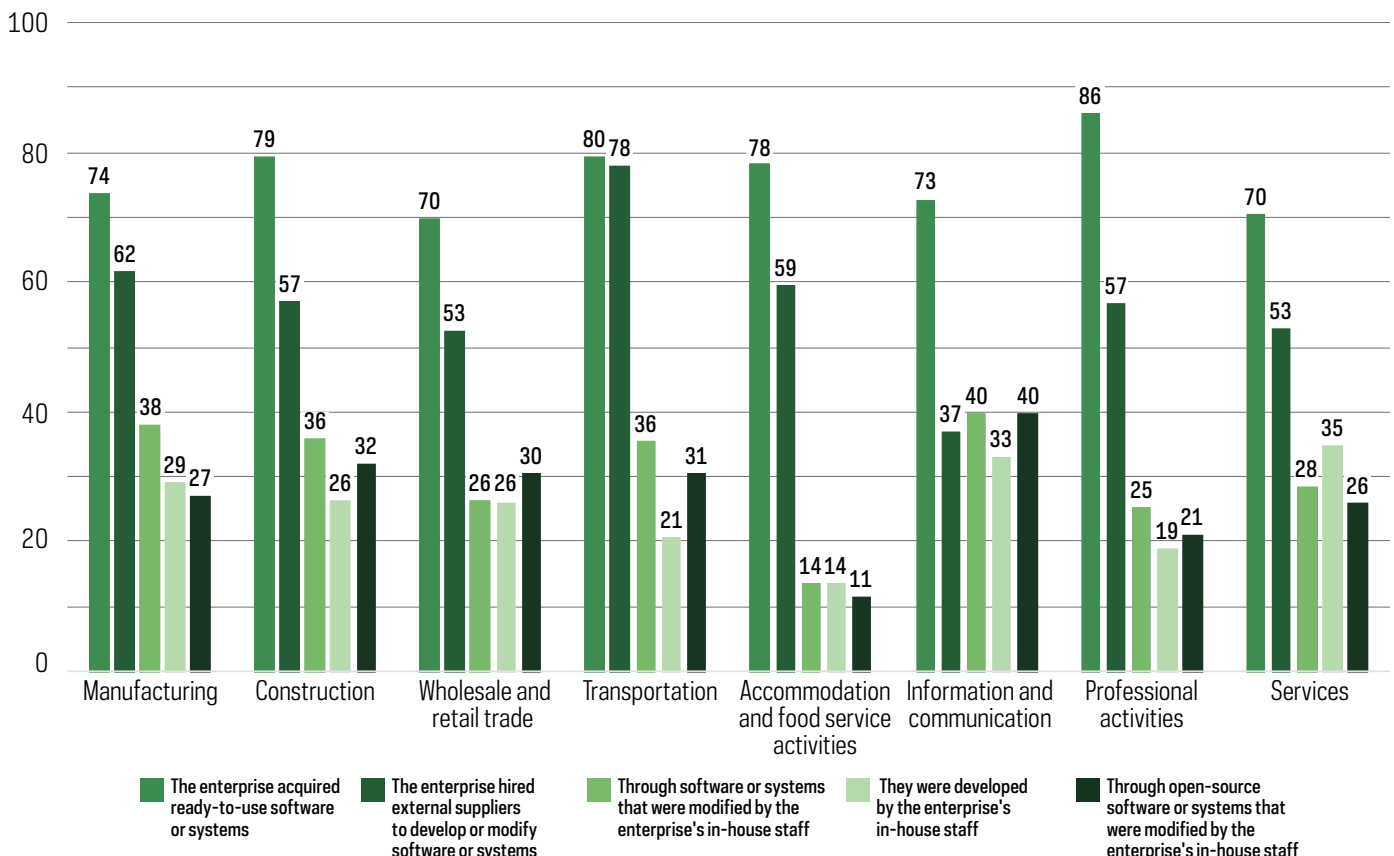
Of the enterprises that used smart or IoT devices, **84%** said that the use was related to facility security

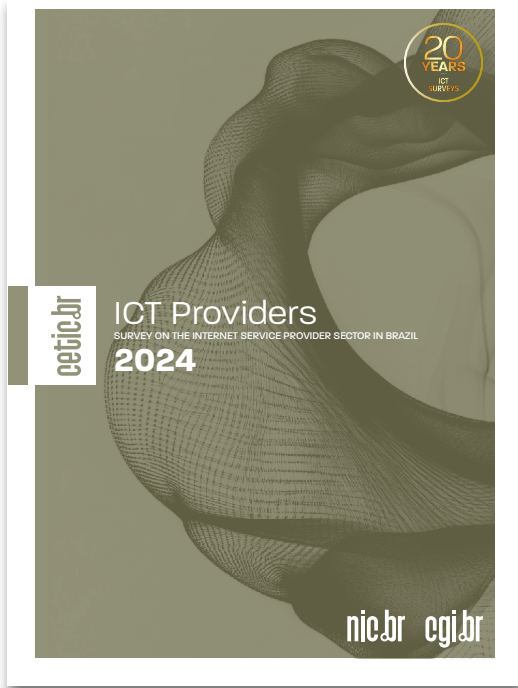


**18%** of enterprises collected data internally from processes and staff and **16%** from customers and users

**ENTERPRISES THAT USED AI TECHNOLOGIES, BY HOW THEY ACQUIRED OR DEVELOPED THE AI SOFTWARE OR SYSTEMS THEY USED AND MARKET SEGMENT (2024)**

Total number of enterprises that used AI technologies (%)





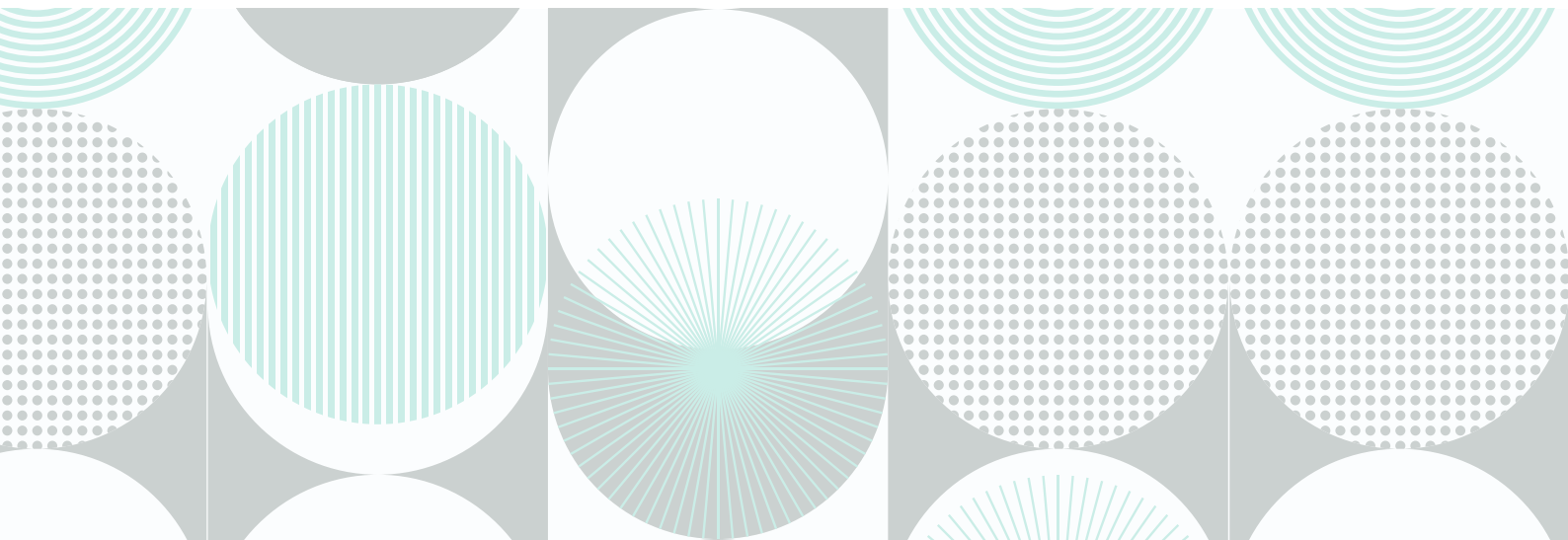
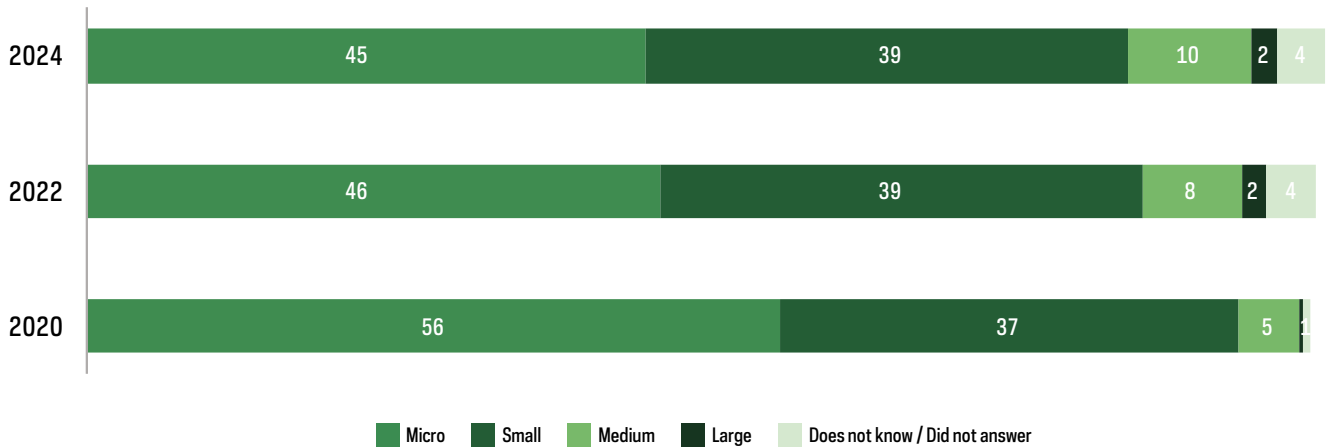
## ICT Providers

Carried out since 2011, the objective of the ICT Providers survey is to map the Internet access provision sector in Brazil. To this end, the survey established the characteristics of Internet service providers in terms of the services they offer, market operations, and technologies adopted.

The 2024 edition of the survey reinforces the trend seen in the previous version, with stability in the total number of active enterprises and evidence of sector consolidation. The transformations in the Internet Service Providers (ISP) market in Brazil signal a new era, with significant impacts on enterprises' traditional operations in response to the new competitive landscape in the sector. Data was collected between September 2024 and April 2025, with 1,719 enterprises interviewed across the country.

### ISP BY SIZE (2020-2024)

Total number of ISP (%)

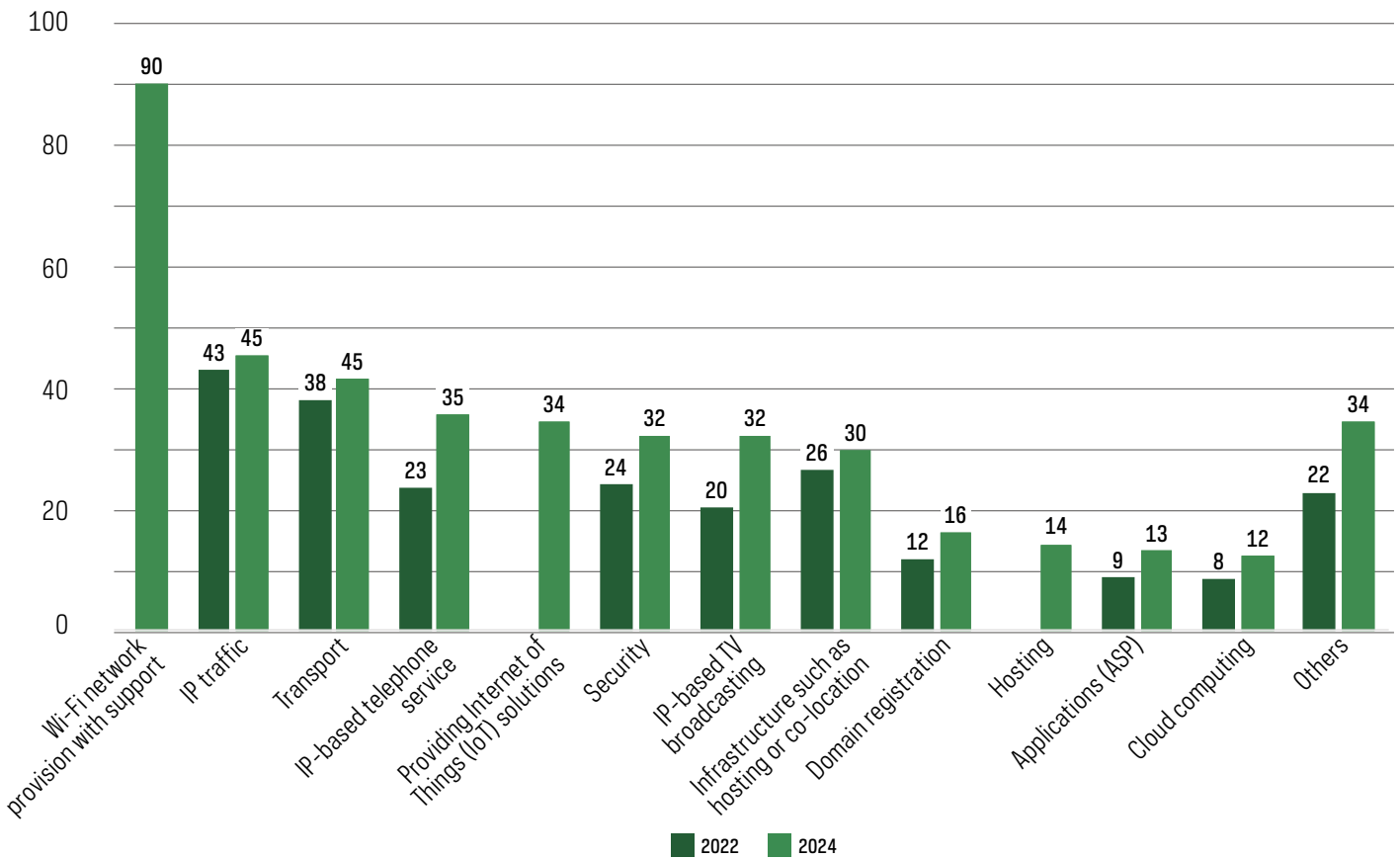


In 2024, **72%** of providers offered **IPv6** to customers, a proportion that was 64% in 2022



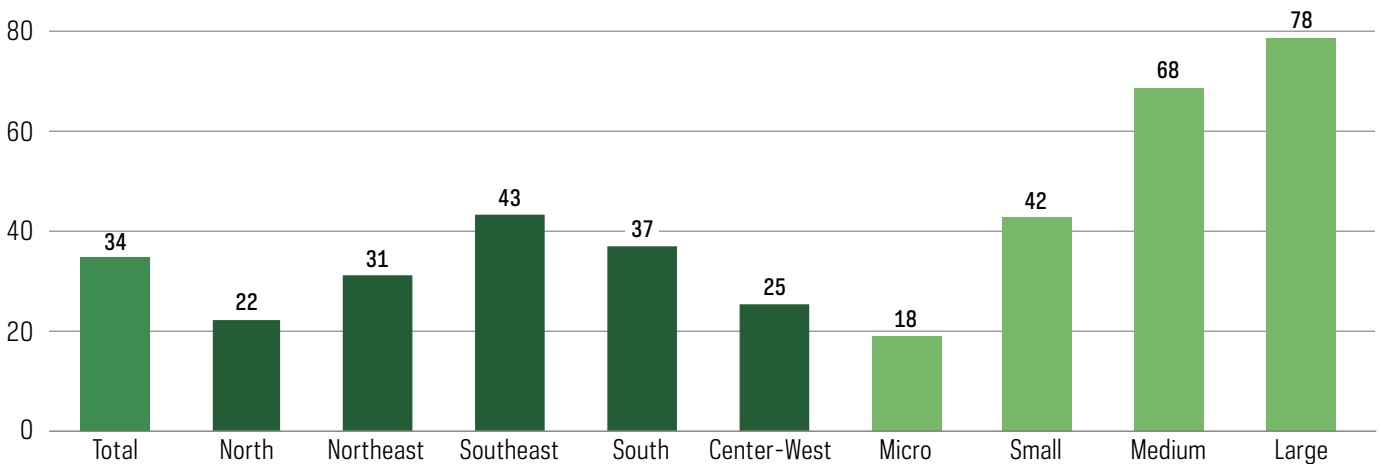
**ISP BY TYPE OF SERVICE OFFERED (2022-2024)**

Total number of ISP (%)



**ISP BY PARTICIPATION IN IX.BR, BY REGION AND SIZE (2024)**

Total number of ISP (%)





## ICT in Culture

Conducted since 2016, The ICT in Culture survey investigates the presence of ICT infrastructure and the use of these technologies in Brazilian cultural facilities, focusing on internal management, public relations, and collection digitization. It also presents information about IT management in these institutions and the perceptions of the contributions and challenges of computer and Internet use in cultural facilities, including archives, heritage sites, libraries, cinemas, museums, culture points, and theaters.

The 2024 edition of the survey highlighted significant transformations in the appropriation of ICT by Brazilian cultural facilities, especially in the post-pandemic period. Despite some concrete advances—such as the substantial increase in the use of organization-owned devices—in many cases, there has been stability in the use of ICT for management, communication, cultural mediation, and education among these institutions. In 2024, the survey interviewed 1,818 managers responsible for cultural facilities, who were randomly selected based on existing official registries. Data collection was carried out between October 2024 and April 2025 using computer-assisted telephone interviews (CATI).

---

### Articles published in ICT in Culture 2024

**The strategic role of the ICT in Culture survey in the construction of the National Culture Plan**

Lia Calabre

**Challenges of regulatory cultural public policies for the Brazilian audiovisual sector in the face of the expansion of streaming services**

Alex Braga Muniz  
& Luana Maíra Rufino Alves da Silva

**Cultural occupation, formal and informal, according to Household CNAE segments (2014-2023)**

Leonardo Athias & Paulo Dick

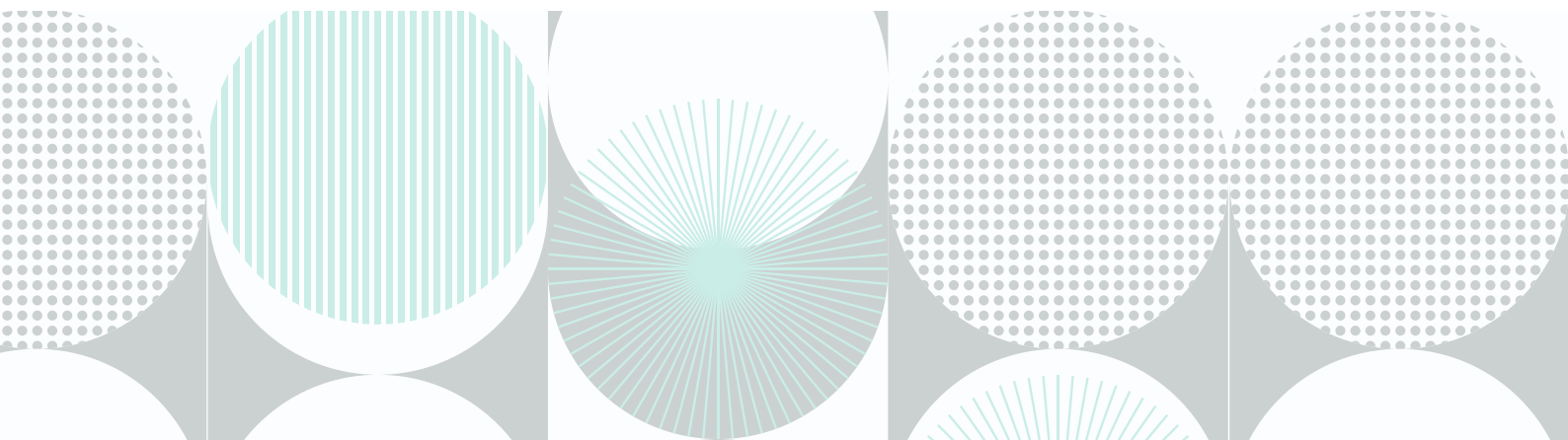
**The virtual worlds of culture points**

Frederico Augusto Barbosa da Silva  
& Paula Ziviani

**Policies and technologies for democratizing digital collections**

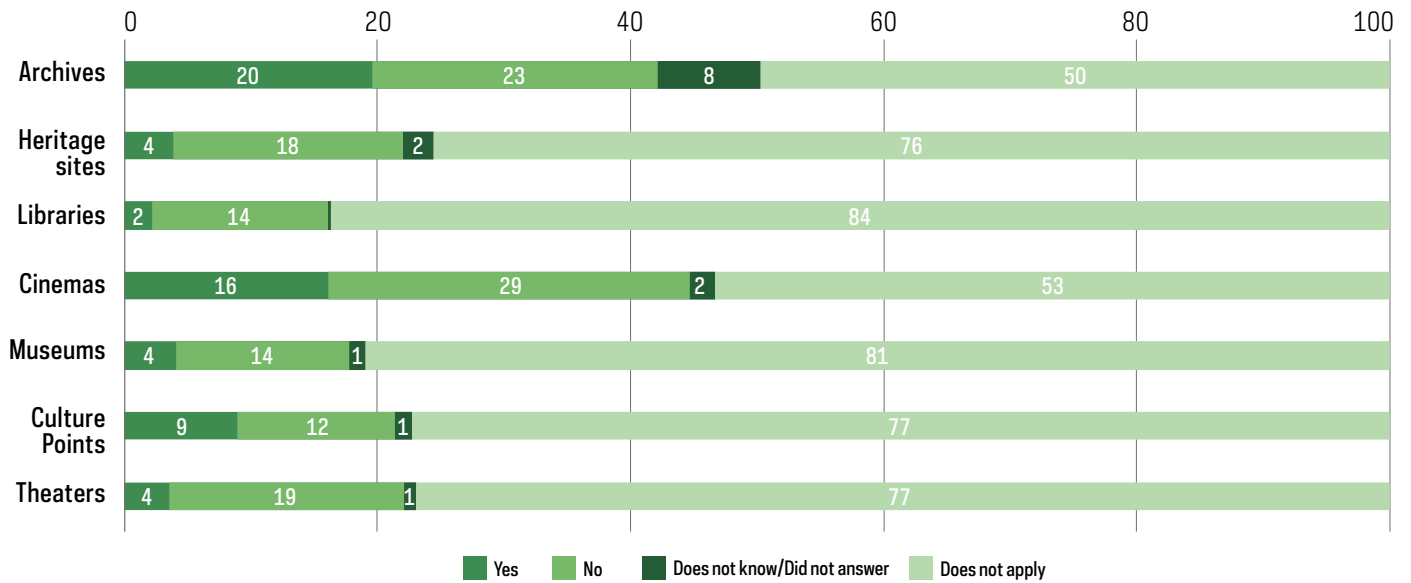
Roosevelt Lins Silva

---



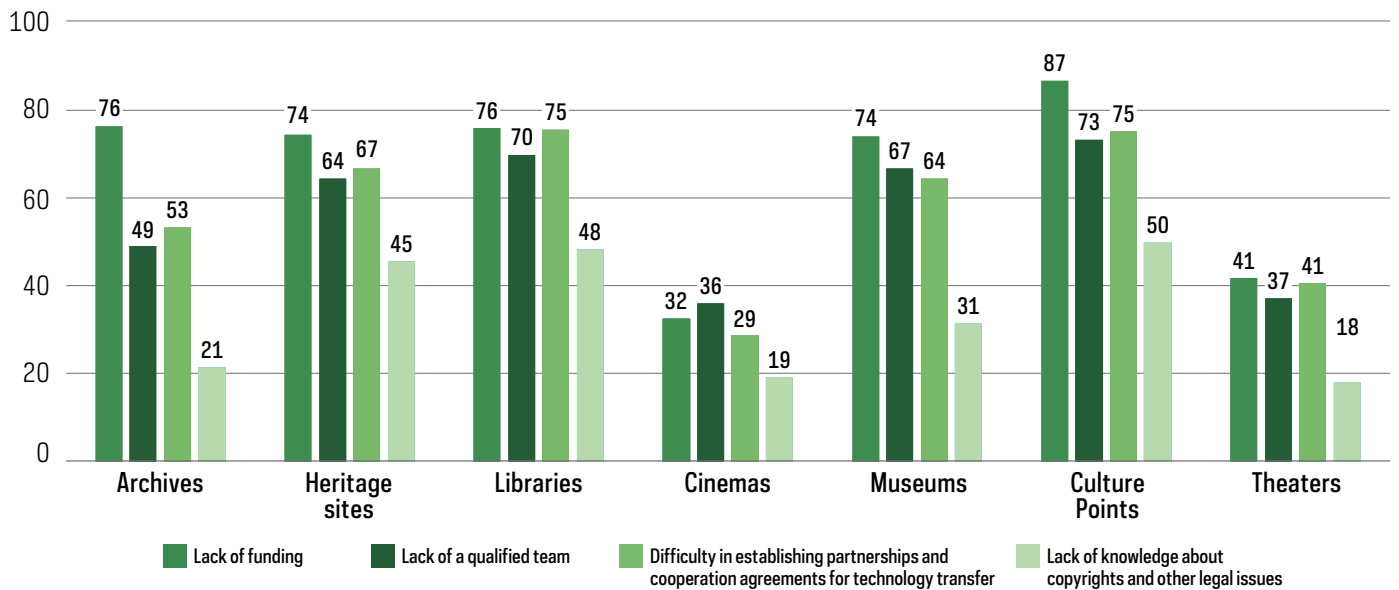
### CULTURAL FACILITIES BY USE OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES (2024)


Total number of cultural facilities (%)




### CULTURAL FACILITIES BY DIFFICULTIES WITH DIGITIZING COLLECTIONS (2024)

Total number of cultural facilities (%)







**33%**  
of libraries are present on Instagram, TikTok, or Flickr



**76%**  
of culture points use YouTube or Vimeo



**57%**  
of cinemas use WhatsApp or Telegram



**35%**  
of theaters are on WhatsApp or Telegram



## ICT Statistics for Children 0 to 8 Years Old

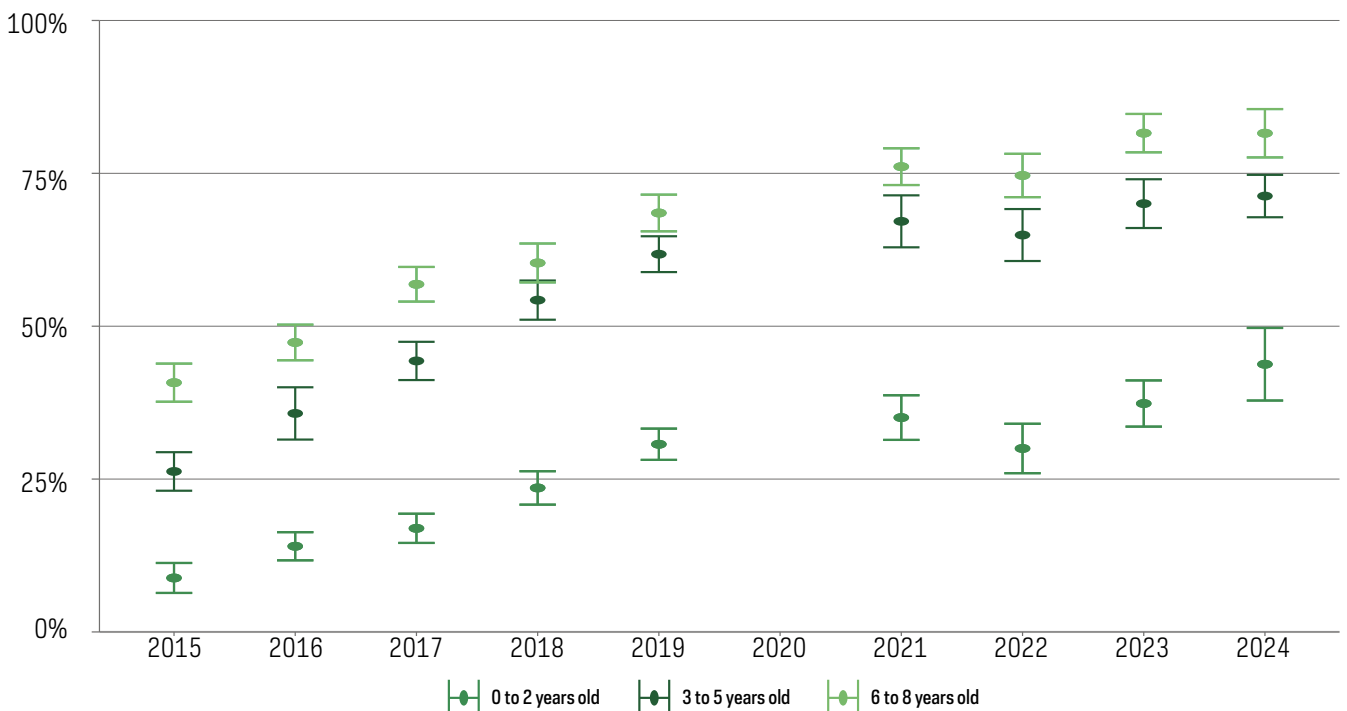
This study presented evidence on Internet access and digital device use by children 0–8 years old in Brazil. Based on the data presented, it sought to fill specific information gaps regarding this age group, contributing to the development of policies and actions focused on childhood and technology.

The analysis, based on data from the ICT Households and ICT Kids Online Brazil surveys for the period from 2015 to 2024, reveals that the proportion of Internet users jumped from 9% to 44% in the 0–2 age group, from 26% to 71% in the 3–5 age group, and from 41% to 82% in the 6–8 age group, when comparing 2015 and 2024.

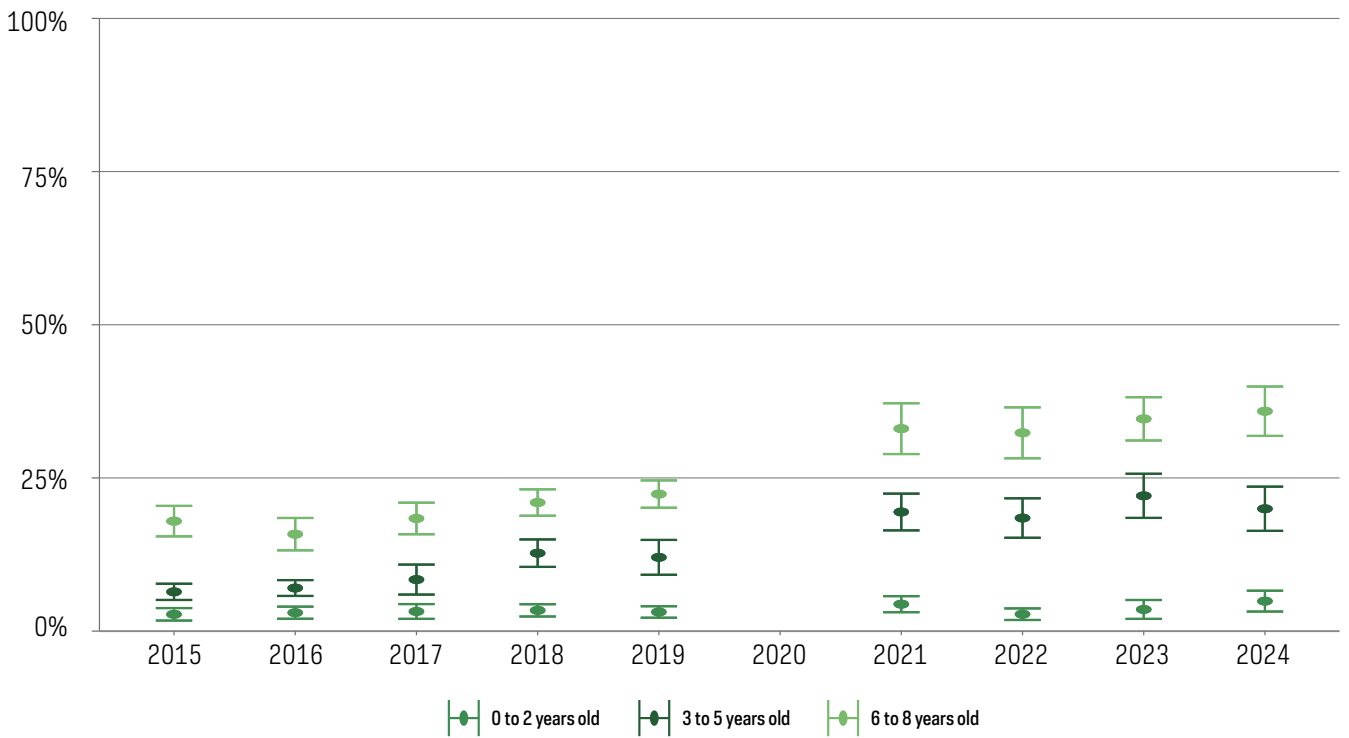
The calculation of the new indicators was possible with Cetic.br|NIC.br improving the weighting methodology for the ICT Households and ICT Kids Online Brazil surveys, allowing for the estimation of results for all residents of the households visited, and not just for those who were interviewed. This made it possible, for the first time, to analyze information on the population aged 0–8 years, which was provided by an adult living in the same household as the child.

The data is essential to guide parents, educators, and public policymakers in developing strategies that promote the healthy and responsible use of technology, leveraging its benefits and minimizing potential risks.

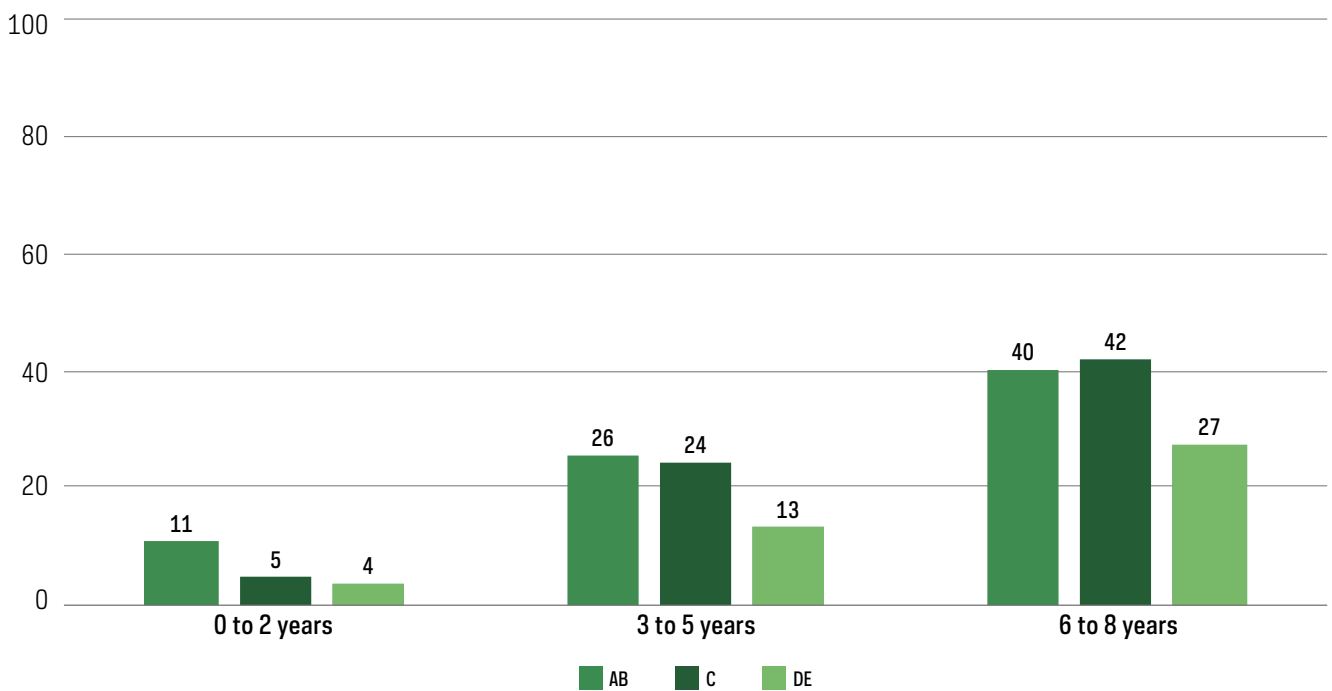
**RESIDENTS 0 TO 8 YEARS OLD WHO WERE INTERNET USERS (2015-2024) (%)**



RESIDENTS 0 TO 8 YEARS OLD WHO OWNED MOBILE PHONES (2015-2024) (%)



RESIDENTS WHO OWNED MOBILE PHONES, BY AGE GROUP AND SOCIAL CLASS (2024) (%)



# Internet Sectoral Overview

The Internet Sectoral Overview (ISO) is a quarterly publication, produced by Cetic.br|NIC.br, that addresses various themes related to access to and use of digital technologies in diverse sectors of society. Available in Portuguese and English, the articles,

interviews, and infographics featured in the ISO explore current debates on digital inclusion and also draw on data and findings that derive from the research conducted by Cetic.br|NIC.br. Four editions were published in 2025, addressing “digital technologies and future challenges.”



## Year 17 - No. 1: Digital infrastructure: Advances and challenges for universal connectivity

- **Article I** - “Digital infrastructure in Brazil: The role of NIC.br in the evolution of the Internet in the country,” by Frederico Neves, Milton Kaoru Kashiwakura, and Julio Sirota (NIC.br)
- **Interview I** - “Strategies and challenges for universalizing the Internet,” with Hermanus Tercius (MCom and CGI.br)
- **Interview II** - “The role of small providers in universalizing connectivity,” with Percival Henriques de Souza (ANID and CGI.br)
- **Domain Report** - “Domain registration dynamics in Brazil and around the world”
- **Answer to Your Questions** - “What you need to know about the Global Digital Compact”

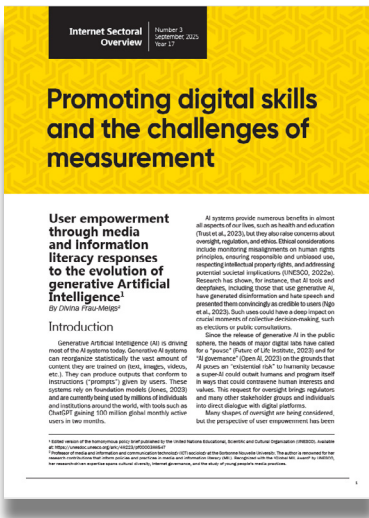


## Year 17 - No. 2: Technologies for sustainability

- **Article I** - “Green Computing,” by Tereza Cristina Melo de Brito Carvalho (Poli-USP)
- **Interview I** - “COP30 in Brazil: Inclusive digital technologies for climate justice,” with Ana Toni (COP30)
- **Article II** - “Artificial Intelligence for climate action in developing countries: Opportunities, challenges and risks,” by the United Nations Climate Change Technology Executive Committee
- **Interview II** - “Climate models, Artificial Intelligence, and the Amazon,” with Paulo Artaxo (IFUSP)
- **Domain Report** - “Domain registration dynamics in Brazil and around the world”
- **Answers to Your Questions** - “Where does electronic waste go?”



## Year 17 - No. 3: Promoting digital skills and the challenges of measurement



- **Article I** - "User empowerment through media and information literacy responses to the evolution of generative Artificial Intelligence," by Divina Frau-Meigs (Sorbonne Nouvelle University)
- **Interview I** - "Data production for sustainable development," with Svein Østtveit (UIS)
- **Article II** - "Literacy and numeracy skills of Brazilian youth and adults in an increasingly digital context," by Ana Lucia Lima (Conhecimento Social - Estratégia e Gestão)
- **Interview II** - "Measuring digital skills: Challenges and solutions," with Riina Vuorikari (independent expert)
- **Domain Report** - "Domain registration dynamics in Brazil and around the world"
- **Internet Markers in Brazil** - "IX.br: Data on Internet Exchange Points"
- **Answer to Your Questions** - "DigComp and the levels of digital skills in Brazil"

## Year 17 - No. 4: Data centers in Brazil



- **Article I** - "Mapping the digital infrastructure in Brazil, notes for a study on data centers," by Rodrigo Brandão and Leonardo Melo Lins (Cetic.br|NIC.br)
- **Interview I** - "Brazil as a hub of the digital economy: Policies and challenges for the sustainable expansion of data centers," with Cristiane Rauen (MDIC)
- **Interview II** - "Data centers and the paths to digital transformation in Brazil," with Igor Marchesini (Ministry of Finance)
- **Interview III** - "The role of data centers in the national science, technology, and innovation agenda," with Henrique de Oliveira Miguel (Setad/MCTI)
- **Domain Report** - "Domain registration dynamics in Brazil and around the world"
- **Answers to Your Questions** - "Access to cloud services"

## NIC.br Sectoral Studies

The NIC.br Sectoral Studies publication series, launched in 2016, addresses a variety of emerging themes that explore the interface between ICT and society.

### Artificial Intelligence in education: Uses, opportunities, and risks in the Brazilian context

The publication was launched in November 2025 during the seminar “INOVA IA 2025,” held in Rio de Janeiro at the SENAC Innovation Center – Cápsula.

Its main objectives were to analyze why AI is used in teaching and learning processes (“Why AI?”), for what purposes and specific tasks the technology is employed (“AI: What for?”), and how it is actually used by teachers and students (“AI: How?”). This analysis is grounded in two strands of qualitative research. The first sought to understand the Brazilian landscape for the development and use of AI technologies in education, assessing the current stage of adoption (“Where are we?”) and gathering insights on the directions the country should pursue in this field (“Where are we going?”). To this end, in-depth interviews were conducted with experts in AI and education from the public sector, civil society, academia, the private sector, and school leadership.

The second strand of the research sought to identify the AI competencies and practices already adopted in Brazilian upper secondary education. To this end, focus groups were conducted with participants from public and private schools in São Paulo (SP) and Recife (PE), including both teachers and students.

#### Presentation

Demi Getschko (NIC.br)

#### Prologue

Henrique Faulhaber Barbosa (CGI.br)

#### Chapter 1 - General introduction to the study and methodological notes

Graziela Castello and Rodrigo Brandão (Cetic.br|NIC.br)

In 2025, one edition was published: *Artificial Intelligence in education: Uses, opportunities, and risks in the Brazilian context* (available in Portuguese and English).



#### Chapter 2 - Artificial Intelligence and education: History, fundamental concepts, and literature review on uses

Flora Ariza (USP)

#### Chapter 3 - Benefits, risks, and purposes of using Artificial Intelligence in education: The Brazilian scenario

Graziela Castello (Cetic.br|NIC.br), Rodrigo Brandão (Cetic.br|NIC.br), Priscila Vieira (Cebap), Monise Picanço (Cebap), Florbela Ribeiro (Cebap), and Gabriela Trindade (Cebap)

#### Chapter 4 - Competences and uses of Artificial Intelligence in education: A qualitative study with upper secondary students and teachers in Brazil

Graziela Castello (Cetic.br|NIC.br), Rodrigo Brandão (Cetic.br|NIC.br), Priscila Vieira (Cebap), Monise Picanço (Cebap), and Florbela Ribeiro (Cebap)

#### Final considerations - Artificial Intelligence and education: Possible paths for public policies

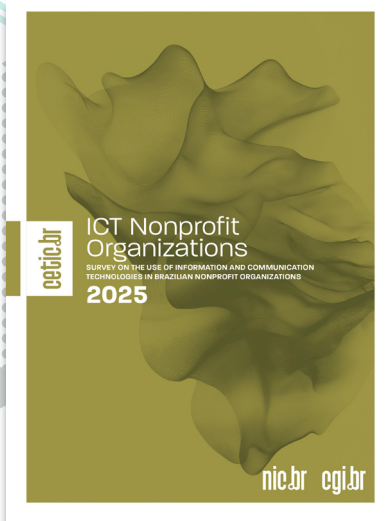
Diogo Moyses (ITU)

## Other ICT Survey Projects



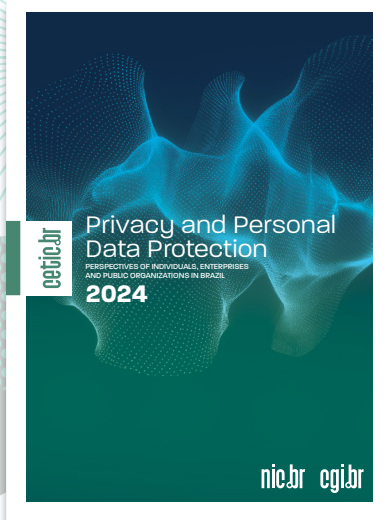
### ICT in Government

Conducted every two years since 2013, the ICT in Government survey (previously named ICT Electronic Government survey) investigates the supply of e-government services in Brazil. With the aim of analyzing this scenario, interviews are conducted with ICT managers and people responsible for the digital content of governmental organizations at the three levels of government (federal, state, and local), and in all branches (executive, legislative, judiciary, and the public Prosecutor's Office).



### ICT Nonprofit Organizations

Conducted since 2012, the ICT Nonprofit Organizations survey investigates the administrative and financial capacities of nonprofit organizations; their access to and use of information and communication technologies; their ICT infrastructure, capabilities, and skills; barriers these organizations face to ICT access and use; and data protection and privacy initiatives adopted by them.



### Privacy and Personal Data Protection

With the growing adoption of digital technologies by public and private organizations and by individuals, it is essential to understand how privacy and personal data protection is perceived in Brazil and identify the strategies they adopt to ensure it. In this context, in 2021 Cetic.br|NIC.br initiated the project "Privacy and personal data protection: Perspectives of individuals, enterprises, and public organizations in Brazil." The analysis is divided into three dimensions: individuals (ICT Panel survey); enterprises (based on data from the ICT Enterprises survey); and public organizations (based on data from the ICT in Government, ICT in Health, and ICT in Education surveys).

# Public Debates: Advancing Knowledge and Information Societies

Cetic.br|NIC.br sponsors widespread public debates and technical meetings with key stakeholders from the government, academia, the private sector, and international and civil society organizations to discuss the socioeconomic and cultural implications of digital technologies and the development of knowledge and information societies. Debates are based on an interdisciplinary approach to discussing the multifaceted aspects related to access to and use and appropriation of technologies by different segments of society.

During 2025, the Center held public events that

marked the launch of new publications and also served as a forum for discussing relevant themes, encouraging informed public debate on digital technologies and society. Among several public debates organized by the Center throughout the year, one relevant highlight was the International Seminar “Cetic.br 20 years: Data and analysis for an inclusive digital future,” which marked the 20th anniversary of the Center and discussed the evolution of the digital agenda over the last two decades, while contributing to shaping a research agenda aimed at fostering inclusive and sustainable digital societies. Below are some of the main events that took place in 2025.

## International Seminar - Cetic.br 20 Years: Data and Analysis for an Inclusive Digital Future

May 2025 – São Paulo (Brazil)

© NIC.br



To celebrate Cetic.br|NIC.br’s 20th anniversary, the International Seminar promoted a reflection on the evolution of the digital agenda over the last two decades. Held in person, with a livestream available on the NIC.br YouTube channel, the event addressed key topics such as digital inclusion

and the challenges of achieving meaningful connectivity, the digital transformation of the economy and the public sector, and the impacts of digital transformation on social policies, such as health and education. In addition, the seminar contributed to shaping a research agenda aimed at fostering the development of inclusive and sustainable digital societies.

The seminar brought together experts from various sectors critical to digital public policies, including government authorities, international organizations, academia, the private sector, and civil society organizations.

## Launch of the Publication ICT in Culture 2024 at the “Diálogos SNIIC” Event (Ministry of Culture)

October 2025 - Brasília (Brazil)

At the invitation of the Ministry of Culture (MinC), Cetic.br|NIC.br launched the publication ICT in Culture 2024 on October 31 in Brasília during the conversation cycle named “National System of Cultural Information and Indicators – Dialogues,” also known as “Diálogos SNIIC” in Portuguese. The series of meetings aims to strengthen a culture of data- and evidence-based management through cooperation between researchers, data producers, managers, and civil society. The target audience was the MinC system team itself, as well as researchers and others who were able to follow the live broadcast. Among the panelists were representatives from the Brazilian Institute of Museums (Ibram) and the National Library Foundation (FBN). The event

marked the resumption of the National System of Cultural Information and Indicators (SNIIC), led by the MinC’s Subsecretariat for Strategic Management (SGE), responsible for drafting the National Culture Plan, a structural policy for the sector that will be in effect for the next ten years.

**Speakers:** Manuella Maia and Lúcia Bueno (Cetic.br|NIC.br)

**Commentator:** José Murilo Costa Carvalho Junior (Ibram) and Jorge Teles (FBN)

**Moderators:** Letícia Schwarz and Sofia Mettenheim (MinC)

© NIC.br



## Launch of the ICT in Education 2024 Survey Publication

October 2025 – Brasília (Brazil)

Within the framework of the National Digital Education Policy (Pned) (Law No. 14.533/2023) and the Brazilian Media Education Strategy, the Secretariat of Digital Policies of the Social Communication Secretariat of the Presidency of the Republic (Secom) annually organizes the Brazilian Media Education Week. The event aims to stimulate national debates, programs, and initiatives on the relevance of disseminating digital education among students and the population in general, as a way to promote social participation and the guarantee of rights. The data collected from students, teachers, director of studies, and school principals in the 2024 edition of the ICT in Education survey contributed to the debates held during the third edition of

the event, which took place October 28–31 in Brasília, under the theme “Mobilizing a Generation for Digital Citizenship.” The launch of the ICT in Education 2024 survey publication took place during the panel “The Landscape of Digital and Media Education in Brazil,” held on the first day of the event. It also featured representatives from the federal government—including the Ministry of Education and the National Council of Education—as well as those from municipal and state education departments and civil society institutions working on the topic.

**Speakers:** Daniela Costa (Cetic.br|NIC.br) and Tatiana Klix (Portal Porvir)

**Commentator:** Marina Covax (MEC)

**Moderator:** Mariana Filizola (Secom)

© NIC.br



## Launch of the ICT Kids Online Brazil 2025 Survey

October 2025 - São Paulo (Brazil)

The launch of the ICT Kids Online Brazil 2025 findings took place on October 22, 2025, in São Paulo, during the 10th Symposium on Children and Adolescents on the Internet.

The Symposium on Children and Adolescents on the Internet is one of Brazil's leading national events dedicated to discussing the challenges, opportunities, and responsibilities related to children's and adolescents' presence in the digital environment. The event brings together experts from the fields of education, law, technology, health, the private sector, civil society organizations, and public authorities, fostering cross-sector dialogue toward a

safer, more inclusive digital environment aligned with the protection and promotion of rights.

In the panel "Launch of ICT Kids Online Brazil 2025," the main highlights of the new edition of the survey were presented, addressing issues related to Internet access conditions, online activities (including new data on the use of generative AI tools), exposure to risks such as contact with commercial content, and parental mediation strategies.

**Speakers:** Luísa Adib (Cetic.br|NIC.br) and Renata Tomaz (Getulio Vargas Foundation)

**Moderator:** Fabio Senne (Cetic.br|NIC.br)

© NIC.br



## Launch of the NIC.br Sectoral Study “Artificial Intelligence in Education: Uses, opportunities, and risks in the Brazilian context”

November 2025 - Rio de Janeiro (Brazil)

The study was launched on November 25 during the INOVA IA 2025 Seminar, held at the SENAC Innovation Center in Rio de Janeiro (<https://inova.ia.br/>). The findings were presented in Panels 1 and 2 of the event.

**Panel 1:** “Artificial Intelligence in Education: Uses, opportunities, and risks in the Brazilian context”

**Speakers:** Graziela Castello (Cetic.br|NIC.br), Paula Cristina Menezes (consultant to the Ministry of Education), and Regina de Assis (former Municipal Secretary of Education of Rio de Janeiro)

**Moderator:** Alexandre Barbosa (Cetic.br|NIC.br)

**Panel 2:** “Opportunities and Risks of AI in Basic Education”

**Speakers:** Rodrigo Brandão (Cetic.br|NIC.br), João Alegria (Fundação Roberto Marinho), and Rebeca Otero (UNESCO)

**Moderator:** Flora Ariza (University of São Paulo)

© NIC.br



## Launch of the ICT Providers 2024 Survey

December 2025 - São Paulo (Brazil)

On December 17, 2025, during the 19th IX Forum, the sixth edition of the ICT Providers Survey was launched. The 2025 data highlighted a new phase for the industry, marked by a slowdown in the emergence of new companies and a more competitive

environment. An important issue examined by the survey is the need for providers to move beyond the provision of basic Internet access, with the delivery of high-quality connections becoming increasingly essential.

**Speaker:** Leonardo Melo Lins (Cetic.br|NIC.br)

# Capacity-Building and Awareness-Raising

Cetic.br|NIC.br's capacity-building programs aim to bring together the main stakeholders involved in the production, analysis, and use of ICT indicators in public policies, academia, and sectoral market analysis. These programs are directed toward data producers and users, such as national statistical institutes, ministries, regulatory agencies, international organizations, and academic institutions. In addition to disseminating technical knowledge on

research methodology, they are a forum for promoting debates on the importance of ICT statistics for evidence-based policymaking and for discussing new measurement options, thus highlighting the potential of ICTs for development. In 2025, in parallel with regular capacity-building and awareness-raising activities on the importance of ICT statistics, the Center continued its support for the Massive Open Online Courses (MOOC) on "ICT and Sustainable Development" and "AI in the Judiciary."

## 15th NIC.br Annual Workshop on Survey Methodology

The 15th edition of the workshop focused on a landscape marked by rapid data transformation, in which traditional data collection methods are being complemented by new information sources and innovative analytical tools. The workshop, held in a closed and exclusive format, took place at the NIC.br head office on August 18-21 and had 114 participants, attending either in person or remotely.

The audience was composed of public managers, researchers, and representatives of civil society and international organizations. Promoted by the Regional Center for Studies on the Development of the Information Society (Cetic.br) in collaboration with the National School of Statistical Sciences (ENCE) of the Brazilian Institute of Geography and Statistics (IBGE) and Society for the Development of Scientific Research (SCIENCE), the meeting featured short courses on new methodological approaches to measuring digital skills, geospatial technologies, innovative data collection methods, and the use of AI in image recognition. It also included presentations analyzing data from digital platforms, citizen-

generated data and big data, providing insights into the methodological challenges and opportunities related to digital platform data.



**DAY 1**

**Keynote:** Big Data - Big Deal or Bigger Dilemma: Exploring the Potential of Using and Integrating Alternative Data Sources within Social Research

**Speaker:** Trent Buskirk, Old Dominion University (USA)

**Session I:** Data Integration and Interoperability

**Speakers:** Daniel Taccari, UNECLAC (Chile) & Luis Gerardo Gonzalez Morales, UNSD (USA)

**Session II:** Multisource Data Integration and Analytics

**Speakers:** Roland Hosner, Flowminder (UK) & Umar Serajuddin, World Bank (USA)

**Panel I:** Data Governance and Ethics

**Speakers:** Andrea Barone, World Bank (USA), Daniel Taccari, UNECLAC (Chile), Leona Verdadero, UNESCO (France), & Luis González Morales, UNSD (USA)

**DAY 2**

**Session III:** The Digital Data Triple Play: Fundamentals of Access, Assessment, and Analytics for Digital Platform Data within Social Research

**Speaker:** Trent Buskirk, Old Dominion University (USA)

**Panel II:** Using Digital Platform Data

**Speakers:** Marina Mendes Tavares, IMF (USA) & Vladimir Klyuev, IMF (USA)

**Panel III:** Using Digital Platform Data

**Speakers:** Ergon Cugler de Moraes Silva, FGV (Brazil), Giulia Tucci, UFRJ (Brazil) & Wagner Meira, UFMG (Brazil)

**Panel II:** Using Digital Platform Data

**Speakers:** Marina Mendes Tavares, IMF (USA) & Vladimir Klyuev, IMF (USA)

**Session IV:** Copenhagen Framework on Citizen Data: Concepts and Implementation

**Speaker:** Haoyi Chen, UNSD (USA)

**Panel IV:** Citizen-Generated Data

**Speakers:** Haoyi Chen, UNSD (USA), Kleber Canuto, Linked Data (Brazil), & Víctor Andrés, DANE (Colombia)

**DAY 3**

**Short Course I:** Measuring Digital Skills

**Speaker:** Riina Vuorikari, independent consultant, former EC JRC researcher (Belgium)

**Panel V:** Measuring Meaningful Connectivity

**Speakers:** Dániel Vértesy, ITU (Switzerland), Edwin Fernando Rojas, UNECLAC (Chile), & Howard Bilodeau, StatCan (Canada)

**DAY 4**

**Short Course II:** Analysis Using Georeferenced Data and the Use of AI in Image Recognition

**Speaker:** Ravi Krishnan, WHO/GIS Centre for Health (Switzerland)

© NIC.br



## Escuela de Transformación Digital e Innovación en América Latina 2025

The 2025 edition of the School of Digital Transformation and Innovation in Latin America was co-organized by the United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC); the Development Bank of Latin America (CAF); the Regional Center for Studies on the Development of the Information Society (Cetic.br), a division of the Brazilian Network Information Center (NIC.br); and the Internet Technical Community (LACNIC, ICANN, Internet Society, LACTLD, LAC-IX, LACNOG, Red CLARA), with the collaboration of the German Corporation for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit [GIZ]), the World Economic Forum (WEF), and the British Embassy in Chile. The event took place on September 8-11, 2025, in Santiago, Chile.

The 11th edition of the event was structured around four thematic axes, addressing key aspects of the digital landscape. These were “From Access

to Meaningful Connectivity,” which explored strategies to ensure equitable and effective Internet access; “The Internet: Functioning, Stakeholders, and Current Challenges,” focusing on the roles and responsibilities of different actors in the digital ecosystem; “Digital Inclusion and Digital Skills Within the Framework of a Democratic Internet,” highlighting the importance of fostering inclusive participation and digital literacy; and “Digital Transformation, Artificial Intelligence, and Productive Development,” focusing on productive digitalization, public digital infrastructure, and emerging technologies.

The event brought together prominent experts, individuals responsible for digital policies, and researchers interested in the role of innovation and digitization in the development of the region, providing a multisector and multistakeholder space for dialogue and learning. The 2025 edition of the school involved more than 98 participants from 22 countries.

© NIC.br



## School of Digital Transformation and Innovation in the Caribbean 2025

The second School of Digital Transformation and Innovation in the Caribbean was held in Port of Spain, Trinidad and Tobago, on June 16–20, 2025. The event was co-organized by the Caribbean Telecommunications Union (CTU); the University of the West Indies (UWI); the United Nations Economic Commission for Latin America and the Caribbean (UN-ECLAC); the Development Bank of Latin America (CAF); the Regional Center for Studies on the Development of the Information Society (Cetic.br), a division of the Brazilian Network Information Center (NIC.br); and the Internet Technical Community (LACNIC, ICANN, Internet Society, LACTLD, LAC-IX, LACNOG, Red CLARA), with the collaboration of the German Corporation for International Cooperation (Deutsche Gesellschaft für Internationale Zusammenarbeit [GIZ]), the World Bank, and Liberty Caribbean.

This edition was organized around six thematic pillars: “Internet: Operations, Actors, and Current Challenges,” “Artificial Intelligence (AI) and Digital Innovation,” “Meaningful Connectivity,” “Infrastructure Resilience and Regulation,” “Regional Cooperation and Policy Frameworks,” and “Measurement and Visualization of Digital Development Progress for Policy Development.”

The school featured 34 speakers and 28 in-person senior government officials as participants from 12 CTU Member States and 1 non-CTU Member State. The following CTU Member States were represented among the regional participants: Antigua and Barbuda, Barbados, Belize, the British Virgin Islands, Guyana, Jamaica, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Sint Maarten, Suriname, and Trinidad and Tobago. The Dominican Republic was the non-CTU Member State.

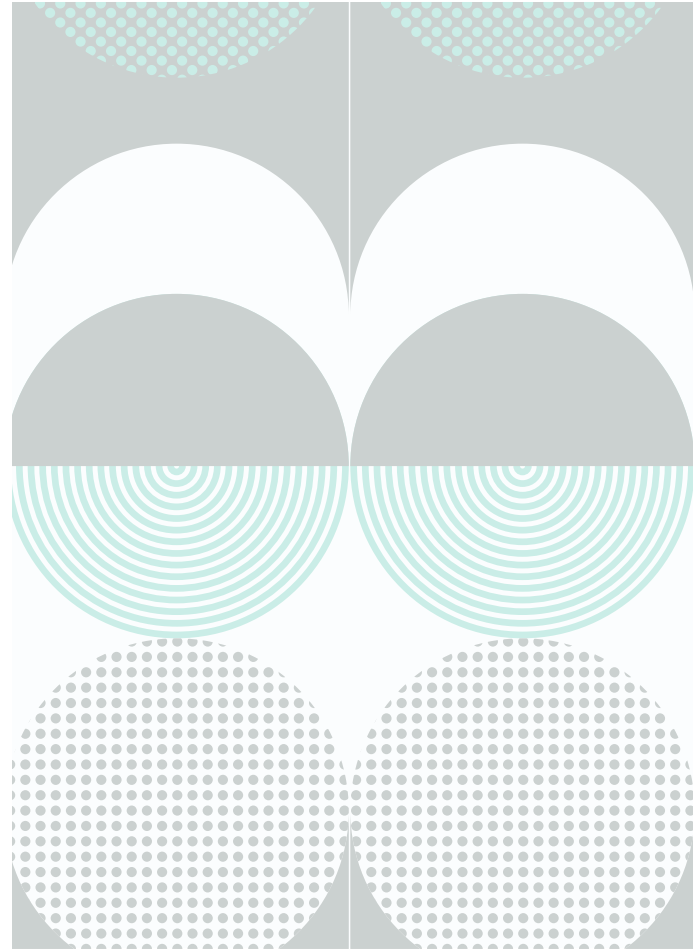
© NIC.br



## Artificial Intelligence for the Public Sector 2025

The Artificial Intelligence for the Public Sector course was delivered in São Paulo, Brazil on April 8–11, 2025, under a joint initiative of the ITU Academy, UNESCO, and Cetic.br|NIC.br. This in-person program brought together 37 public sector professionals from 19 countries across different regions of the world, strengthening their capacity to integrate AI into digital government strategies, service delivery, and policy development.

The training was hosted by Cetic.br|NIC.br and supported by the European Union's Global Gateway. The initiative contributed to enhancing institutional capacities for responsible digital transformation and to reinforcing a global network of public sector professionals committed to the ethical, transparent, and effective deployment of AI in government. Over the four-day program, participants examined key AI concepts and their implications for public administration, including governance and regulatory considerations, human-centered approaches, and the life-cycle management of AI-enabled public services.

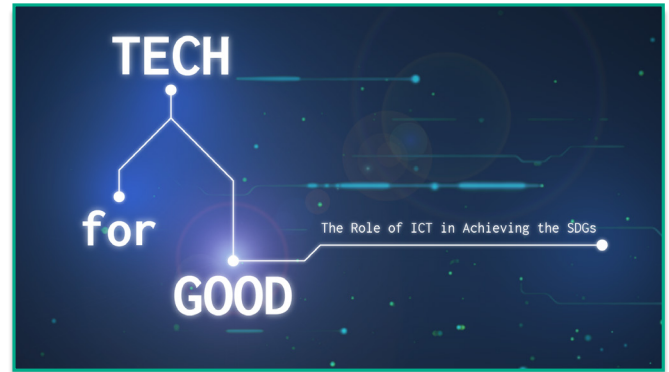


© NIC.br



## MOOC // Tech for Good: The Role of ICT in Achieving the SDGs

This program, offered in a massive open online course (MOOC) format through the edX Platform, is a joint initiative by Cetic.br|NIC.br, UNESCO, and the SDG Academy. Set up as a self-paced course, it provides students with a set of ten modules that address ICT as a critical component for achieving the SDG. The course brings together thought leaders and changemakers from all regions of the world in fields related to ICT and sustainable development. It addresses the role of ICT in achieving the SDG in five important areas: (a) how digital technologies are empowering billions of people around the world by providing access to education, healthcare, banking, and government services; (b) how ICT is being used to inform smarter, evidence-based policies to improve people's lives in fundamental ways; (c) how these technologies can be used for measuring and monitoring the achievement of the SDG; (d) new challenges that technology can introduce, such as privacy, data management, risks to cybersecurity, e-waste, and the widening of social divides; and (e) ways in which stakeholders are coming together to answer big questions about what our future will look like in a hyperdigitized world.



### COURSE MODULES:

**Module 1:** Welcome to the Digital Age

**Module 2:** Technology for Governments and Citizens

**Module 3:** ICT Infrastructure

**Module 4:** ICT Innovations in Health

**Module 5:** Learning in Knowledge Societies

**Module 6:** Promoting Financial Inclusion

**Module 7:** Measurement and Metrics for ICT and the SDGs

**Module 8:** Artificial Intelligence for Development

**Module 9:** Concerns for our Digital Future

**Module 10:** The Way Forward

**Languages:** Videos in English; transcriptions in English, Spanish, Portuguese, and Russian.

### Registration and more information:

<https://sdgacademy.org/course/tech-for-good/>

## MOOC // AI and the Rule of Law

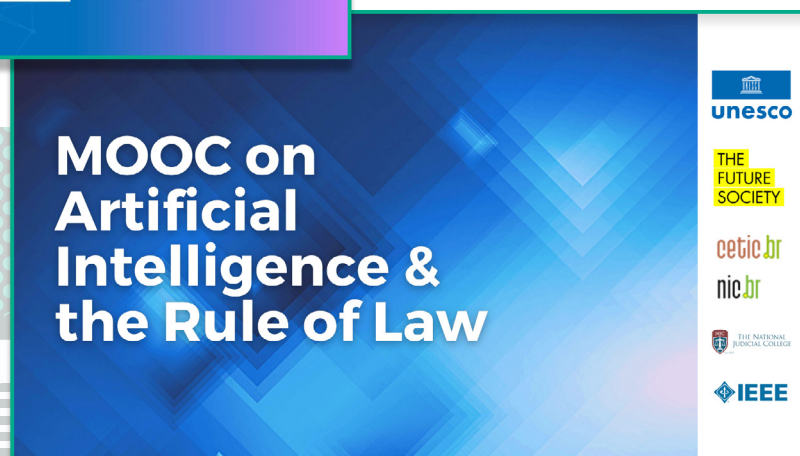
Developed by UNESCO and The Future Society, with the support of Cetic.br|NIC.br, the National Judicial College, and the Institute of Electrical and Electronics Engineers Standards Association (IEEE SA), and the contribution of the UNESCO Multi-Donor Programme on Freedom of Expression and Safety of Journalists (MDP) and the Open Society Foundations, it is an introductory course engaging judicial operators in a global discussion around AI's application and impacts on the rule of law. The MOOC is structured in six modules, enabling the unpacking of the opportunities and risks associated with the adoption of AI technologies across justice systems, as well as their impact on the administration of justice, with a focus on human rights, AI ethics, and governance issues.

The target audience of the MOOC is judges, prosecutors, public defenders, and other stakeholders working for judiciary branches, prosecution services worldwide, and sectors including legal technology companies. Other relevant audience groups include policymakers, academics, and civil society representatives.

**Languages:** English, French, Spanish, Russian, Chinese, Arabic, and Portuguese.

**More information:**

<https://www.unesco.org/en/articles/training-judges-lawyers-and-prosecutors-artificial-intelligence-and-rule-law>



# Methodological Support on Data Measurement for Strategic Partners

In 2025, Cetic.br|NIC.br continued to work alongside strategic partners in the area of ICT-related statistics production, data provisioning and sharing, data analysis, and capacity-building on survey methodologies and innovative methods of data collection. Based on a multistakeholder approach, Cetic.br|NIC.br works in close cooperation with partners from relevant areas of government (regulators, national statistical offices, various ministries), academia, research institutes, and international organizations to develop an ICT measurement ecosystem that allows for the production of sound and updated data for policymaking and research.

It also provides technical support to decision-makers and data producers in Latin America and Portuguese-speaking countries in Africa. Cetic.br|NIC.br is also an active player in the international arena. In recent years, it has been cooperating with national statistical offices in Latin America and with the United Nations Economic Commission for Latin America and the Caribbean (ECLAC), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the International Telecommunication Union (ITU), and the Organisation for Economic Co-operation and Development (OECD) in the area of measurement, indicators, and survey methodologies.

## UNESCO Internet Universality Indicators

The UNESCO Internet Universality Indicators were designed to enable stakeholders to assess Internet development at the country level and offer policy improvement recommendations, all in accordance with UNESCO's ROAM-X principles: R - Human Rights; O - Openness; A - Accessibility to All, and M - Multistakeholder Participation. Cetic.br|NIC.br's contribution to this global project started with the pilot implementation and completion of UNESCO's framework of Internet Universality Indicators (IUI) in Brazil in 2018, after which Brazil was the first country to complete an assessment based on the ROAM-X indicators, led by Cetic.br|NIC.br. Over the following years, the Center continued supporting this initiative by providing guidance to several countries implementing them. Cetic.br|NIC.br also supported UNESCO in



the process of updating the IUI framework. The project included the production of a background report, based on desk research and meetings with partners; a consultation process that included interviews and online surveys with participant countries; and the production of the publication *Internet Universality: Advancing Inclusive Digital Transformation with ROAM-X Indicators*.

In 2025, Cetic.br|NIC.br coordinated the implementation of the second Brazilian National Assessment of IUI, which was conducted between March and July 2025. The assessment covered the full set of 133 proposed indicators. Following validation by CGI.br and invited experts, targeted updates were incorporated between October and November 2025 to refine and validate the information presented.

The application of institutional, quantitative, and qualitative indicators was based on official sources, including legislation and regulatory instruments, statistical data produced by Cetic.br|NIC.br through its ICT surveys, and complementary datasets from national public institutions. Additional sources included thematic studies and reports from academic institutions, international organizations, the private sector, and civil society, as well as specialized media coverage and relevant public statements. Interviews and focused consultations with managers and experts were also conducted to complement specific indicators.

### **Subregional Workshop for Portuguese-Speaking Countries in Africa on Universal and Meaningful Connectivity — ITU, ARCTEL, and Cetic.br|NIC.br**

A workshop was held in São Tomé for training on the Manual for measuring ICT statistics in household and individual surveys, which correspond to the indicators reported by Cetic.br|NIC.br from its ICT Households survey, and the Manual for Telecommunications indicators, reported by regulatory agencies.

Indicators and methodological best practices were covered, as well as topics such as the use of mobile phone data and the concept of universal and meaningful connectivity.

Participants included representatives from regulatory agencies of all Portuguese-speaking countries in Africa and ANATEL, representatives from national statistical offices in the region, and participants from various governmental organizations in São Tomé and Príncipe, such as the Regulatory Agency of São Tomé and Príncipe (AGER), private telecommunications operators, and the São Tomé and Príncipe Data Protection Authority.

### **Regional Workshop for Portuguese-Speaking Countries in Africa on Data Governance - UNESCO Mozambique, Smart Africa and Cetic.br|NIC.br**

A workshop on data governance was held in Maputo on the occasion of the publication of the UNESCO “Practical Guide to Data Governance,” which was also translated into Portuguese.

The publication presents tools and best practices for implementing data management policies, structured in four pillars (Purposes, Principles, People and Processes, and Policies and Practices). It also outlines a framework for the data life cycle, from planning and collection to analysis and use.

The event was attended by 40 participants from various institutions in Mozambique (INCM, INTIC, and INAGE, among others), as well as delegates from Angola and São Tomé and Príncipe.

The event was facilitated by Cetic.br|NIC.br, including the moderation of group activities and consecutive translation. Experts from the United Nations University (UNU), the World Bank, and Brazilian National Data Protection Authority (ANPD) also participated remotely as speakers.

# Debating the Challenges of ICT Measurement in International Forums: Sharing Experiences with Data Production

Cetic.br|NIC.br is dedicated to the systematic production of indicators and statistics about ICT access and use in Brazil in various sectors of society. With 20 years of experience, the Center adopts the methodological recommendations established by international organizations that work with the measurement and analysis of ICT statistics, enabling the comparison of its indicators with

those of other countries. Cetic.br|NIC.br also contributes to the development of these recommendations and actively participates in discussions about the indicators. In 2025, the Center participated in discussions held in various national and international forums dedicated to ICT methodologies and indicators, which focused on their review and definition. Some of those events are highlighted below:

## Expert Group on ICT Household Indicators (EGH) and Expert Group on Telecommunication/ICT Indicators (EGTI), International Telecommunication Union (ITU)

At the 13th meeting of the Expert Group on ICT Household Indicators (EGH) and the 16th meeting of the Expert Group on Telecommunication/ICT Indicators (EGTI), hosted by the International Telecommunication Union (ITU), representatives from Cetic.br|NIC.br actively contributed to discussions on the work of the EGH and the joint EGTI/EGH subgroups. Marcelo Pitta delivered a presentation with findings from a study comparing survey responses to questions on Internet use and household Internet access in one- and two-person households, highlighting potential sources of respondent confusion regarding the latter topic. Winston Oyadomari presented a summary of the joint report, emphasizing its assessment of

candidate indicators for the ICT Development Index (IDI) and its review of methodological considerations. The representatives also recommended that EGTI/EGH revise the IDI methodology in 2026, in light of the upcoming expiration of the current framework's validity.

## Working Group on Measuring E-commerce and the Digital Economy — UN Trade and Development (UNCTAD)

Cetic.br|NIC.br has been part of a working group led by the UNCTAD that aims to promote cooperation in measuring electronic commerce and the digital economy. The 2025 meeting took place on December 2 and 5, and participants from several countries presented the advances and challenges of measuring the digital economy, with a special focus on the dissemination of good practices, comparability, and support for developing countries.<sup>3</sup>

3 More information about the event can be found at <https://unctad.org/meeting/working-group-measuring-e-commerce-and-digital-economy-6th-meeting>.

## Working Party on Digital Economics, Measurement and Analysis, Organisation for Economic Co-operation and Development (OECD)

Cetic.br|NIC.br participated in the Working Party on Digital Economics, Measurement and Analysis (WP DEMA), coordinated by the Organisation for Economic Co-operation and Development (OECD), whose 37th and 38th sessions took place in the OECD's headquarters in Paris, April 8-9 and November 6-7, respectively. The 37th session focused on topics such as statistical standards and definitions for measuring AI, measuring cybersecurity innovation, digital trade, and e-commerce. The 38th session addressed topics such as measuring ICT access and usage in business tendency surveys, AI's impact on productivity, social media use by adolescents, and the role of digital intermediation platforms. It also included the Workshop on Measurement of Child Well-being in Digital Environments, with a presentation delivered by Alexandre Barbosa on "ICT and living condition surveys."

## Working Party on Artificial Intelligence Governance (WP-AIGO) / Global Partnership on Artificial Intelligence (GPAI)

The Working Party on Artificial Intelligence Governance (WP-AIGO) was established within the Organisation for Economic Co-operation and Development (OECD) in 2022 to support governments in the design, implementation, and evaluation of AI policies. Its mandate includes work on trustworthy AI, risk management, foresight, and the development of metrics and analytical tools through initiatives such as the OECD.AI Policy Observatory. In 2024, OECD

member countries and the Global Partnership on Artificial Intelligence (GPAI) agreed to integrate the GPAI's activities with the OECD's AI policy work, creating a unified international partnership hosted by the OECD. This arrangement brings together OECD members and GPAI partners, strengthening links between policy development, technical research, and implementation support for AI governance. Cetic.br|NIC.br has participated in these working group, with a particular focus on advancing methodologies and indicators to measure AI adoption and its socioeconomic implications.

## EU-LAC Digital Alliance High-Level Policy Dialogue on AI and Online Platform Governance

The EU-LAC Digital Alliance High-Level Policy Dialogue on Artificial Intelligence and Online Platform Governance, held in São Paulo, Brazil, in July 2025, brought together policymakers, regulators, researchers, and representatives from international organizations across Europe, Latin America, and the Caribbean. Organized within the framework of the EU-LAC Digital Alliance, the event aimed to strengthen biregional cooperation on digital policy, particularly in areas related to AI governance and the regulation of online platforms. The meeting also hosted a session of the Working Group on Artificial Intelligence under the eLAC Digital Agenda, providing a platform for strategic dialogue on emerging technological trends and policy responses in the digital economy.

Alexandre Barbosa, head of Cetic.br|NIC.br, participated in the dialogue as a speaker in the session "Towards Better Metrics: Challenges and Innovations in AI Measurement." He emphasized the importance of developing robust statistical frameworks and internationally comparable indicators to measure the adoption and impact of Artificial Intelligence across sectors.

# Accelerating SDG through ICT

## Contributions to the 2030 Sustainable Development Agenda



## SDG 4

### QUALITY EDUCATION

---

Cetic.br|NIC.br contributes to SDG 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) through a range of activities, including the production of ICT and education statistical data, the development of international frameworks, and support for policymakers in designing evidence-based ICT policies.

Each year, Cetic.br|NIC.br conducts the ICT in Education national survey, which tracks key indicators on access to and use of ICT, as well as digital skills among students, teachers, and school principals. Additionally, the ICT Households survey measures digital skills in the general population, following the ITU framework. In contrast, the ICT Kids Online Brazil survey focuses on children and their parents or legal guardians. These data sources help monitor progress on Target 4.4, particularly Indicator 4.4.1.

The data produced by Cetic.br|NIC.br's quantitative surveys supported the development of national education guidelines, such as the participation of Cetic.br|NIC.br in the public hearing held by the Chamber of Deputies to discuss the National Education Plan 2025–2035, which is expected to be approved in 2026 and will include new targets related to the universalization of meaningful connectivity and to the quality of digital educational resources offered in schools.

The analyses generated by indicators from regular quantitative surveys, such as the ICT in Education survey, also aim to contribute to the development of more effective actions to ensure quality access to education, considering the mediation of digital technologies based on the processing of large volumes of data, machine learning techniques, and the automation of pedagogical and management processes. In this regard, Cetic.br|NIC.br took part in discussions organized by the Brazilian Ministry of Education aimed at promoting the development of national frameworks for the use of AI in education in schools and universities in Brazil.

In addition to producing quantitative data, in 2025 Cetic.br|NIC.br also conducted the qualitative study “Artificial Intelligence in Education: Uses, Opportunities, and Risks in the Brazilian Context” on access to and the appropriation of AI-based systems in teaching and learning processes. Focus groups conducted with secondary education students and teachers highlighted important aspects for understanding the impacts of these digital resources on access to information and knowledge and on students' learning. In-depth interviews with school administrators, representatives from the public sector, companies operating in the educational technology sector, universities, and civil society

organizations also helped to better understand the adoption cycle of such resources by schools and the role they play in the development of public education policies.

Considering that equitable and high-quality access to education also involves the critical, safe, responsible, and creative use of digital technologies, indicators from the ICT in Education and ICT Kids Online Brazil surveys were relevant for the implementation of national public policies. These include Federal Law No. 15.100/2025, which restricts the use of personal digital devices—such as mobile phones—by students in basic education schools; Resolution No. 2/2025 of the National Education Council, which promotes the inclusion of media and digital citizenship education in the school curriculum; and Federal Law No. 15.211/2025, which

establishes the Digital Statute of Children and Adolescents (ECA Digital).

At the international level, Cetic.br|NIC.br participated in important forums aimed at discussing ways to improve and expand the provision of education through opportunities generated by digital technologies and services. These included a meeting with representatives of the Digital Transformation Collaborative, a project that is part of the UNESCO Global Education Coalition, organized by the UNESCO Brazil Office in partnership with UNICEF, the Ministry of Communications, and the Ministry of Education. In September 2025, Cetic.br|NIC.br also participated in discussions organized by the UNESCO International Bureau of Education on the future of curriculum in the age of AI, held during Digital Learning Week 2025 at the UNESCO headquarters in Paris.



## SDG 5

### GENDER EQUALITY

---

Within the scope of knowledge production, all surveys conducted by Cetic.br|NIC.br with individuals and professionals allow for disaggregation by gender. Additionally, they provide data users with access to a comprehensive set of specific indicators on the subject. The topic is highlighted, in particular, in the two household surveys conducted annually by the Center: ICT Households and ICT Kids Online Brazil.

In 2025, Cetic.br|NIC.br conducted the project “Meaningful Connectivity and Productive Inclusion in Brazil: A Portrait of Gender and Racial Inequalities” in partnership with the Inter-American Development Bank (IDB) and the Brazilian Ministry of Women. In addition to the literature on digital and productive inclusion along with gender and racial inequalities, the

project consists of two main analytical studies: a quantitative one, which, based on the concept of meaningful connectivity, sheds light on digital inequalities and their implications on productive inclusion; and a qualitative one, focusing on rural women workers, including Indigenous women, Quilombolas, fishers, and small-scale farmers, and addressing the opportunities and challenges of digital inclusion aimed at productive inclusion. The results reinforce that connectivity is only truly meaningful when it considers identity, territory, and social markers of inequality, ensuring both productive autonomy and cultural preservation for these groups. Lastly, the project included a review of good practices implemented in different regions aimed at promoting digital and productive inclusion of women.

Another action in this area was the publication of the EQUALS Research Report 2024, "Evidence to Impact: Advancing Gender Empowerment in the Digital Age." EQUALS is a global partnership formed between the ITU, UN Women, GSMA, the International Trade Centre (ITC), and United Nations University (UNU) to promote gender equality in ICT access, skills, and leadership. Cetic.br|NIC.br has been a member of the group since 2017 and contributed to the report with peer-reviewing feedback and publication curation, in addition to authoring a chapter based on the data from ICT Households survey to analyze the use of electronic government services through an intersectional lens. The report was launched during the WSIS+20 High-Level Event 2025.

Moreover, in 2025, Cetic.br|NIC.br staff members were invited to join the EU-LAC Network of Women Leaders in Digital Policy as an affiliate member. The network is an initiative of the EU-Latin America and Caribbean Digital Alliance, aligned with the eLAC 2026 Agenda and with the goal of promoting meaningful connectivity with gender equity. Affiliate members are institutions that do not represent any given country but instead contribute technical knowledge and regional expertise to

strengthen the network's work. In this capacity, Cetic.br|NIC.br contributes data- and evidence-based expertise to the network's technical discussions and events.

Cetic.br|NIC.br researchers also contributed to international academic debates on gender and digital inequalities by presenting analyses based on the Center's data and the concept of meaningful connectivity at international conferences. At the Society for the Advancement of Socio-Economics (SASE) Conference and its Ibero-American Conference, members of the Center presented research examining digital inequalities and their implications for women's participation in the labor market in Brazil, as well as broader gender gaps in meaningful connectivity.

Cetic.br|NIC.br also adopts gender balance criteria in the integration of panels at events, authors invited to its publications, the selection of authors invited to participate in its publications, capacity-building activities, and the composition of research teams. The Center's team is composed of 13 men and 14 women. The composition of the Center's team of coordinators also presents gender balance.



## SDG 9

### INDUSTRY, INNOVATION AND INFRASTRUCTURE

---

Cetic.br|NIC.br continues to uphold its core projects and activities, supporting key initiatives under SDG 9 (Build resilient infrastructure, promote inclusive and sustainable industrialization, and foster innovation). The Center's knowledge production strategies play a vital role in measuring SDG 9 through nationwide surveys on ICT adoption in enterprises and households, and by Internet service providers (ISP). These surveys are essential for understanding both the supply and demand sides of ICT goods and services in Brazil, which are

crucial for digital transformation and the growth of the digital economy.

Cetic.br|NIC.br also actively participates in international working groups that define concepts and frameworks for measuring the digital economy. These groups, led by organizations such as the OECD, the ITU, UNCTAD, and ECLAC, work to promote the production of comparable indicators across countries.

In particular, Cetic.br|NIC.br's data production efforts contribute to monitoring Target 9.c, which

aims to expand ICT access and ensure universal and affordable Internet connectivity in the least-developed countries.

In addition, Cetic.br|NIC.br produces regular publications focusing on the innovative use of digital technologies and digital transformation. Capacity-building strategies developed by the Center also contribute to raising awareness among policymakers and key actors about emerging issues such as AI, innovative data collection methods, and alternative data sources

such as Big Data. In 2025, Cetic.br|NIC.br also supported ongoing projects involving data collection on emerging technologies (such as AI and the Internet of Things [IoT]) in enterprises, in partnership with the OECD.

The Center also supported the BRICS SME Working Group under the Partnership on the New Industrial Revolution (PartNIR) contributing to the selection of indicators for evaluating the digital maturity of firms within the bloc.



## SDG 16

### PEACE, JUSTICE AND STRONG INSTITUTIONS

---

Cetic.br|NIC.br's ICT in Government survey is a key contribution to SDG 16 (Promote peaceful and inclusive societies for sustainable development, provide access to justice for all, and build effective, accountable, and inclusive institutions at all levels). This survey measures the digital transformation of public administration across federal, state, and local levels in Brazil, providing essential data to inform digital government policies. It also includes a smart cities module, offering insights into ICT adoption by local governments. Additionally, Cetic.br|NIC.br actively participates in international discussions on digital government and smart cities.

Beyond e-government, Cetic.br|NIC.br monitors digital transformations in the health and education sectors, identifying advances and barriers to adopting ICT solutions—critical elements for progress under SDG 16. The ICT Enterprises survey further contributes by providing data to support policies that promote innovative ICT solutions in the business sector.

In 2025, Cetic.br|NIC.br contributed to the 26th Annual International Conference on Digital Government Research (dg.o 2025) through multiple high-level engagements. The Center organized the workshop "Digital

Government Measurement for Research and Public Policies," which presented demand- and supply-side digital government indicators and their application to research and policymaking, bringing together around 40 participants from eight countries. Cetic staff also presented the paper "Context-Sensitive Measurement: Addressing the Local Context in Smart City Assessment," participated in the plenary session on digital government and inequalities, and coordinated a panel on digital government and meaningful connectivity, reinforcing the Center's role in advancing evidence-based approaches to digital governance.

Cetic.br|NIC.br further supported international cooperation by participating in the Information for Development Working Group under UNESCO's Information for All Programme (IFAP), fostering partnerships to build inclusive and sustainable knowledge societies. Another significant contribution to SDG 16 was the 2024 edition of the massive open online course (MOOC) "Artificial Intelligence and the Rule of Law." This introductory course engaged judicial professionals regarding the application and impact of AI in legal systems.

# Cooperation Networks

In 2025, Cetic.br|NIC.br strengthened its cooperation efforts with government agencies and regional collaboration networks in Latin America and Portuguese-speaking African countries, which made it possible to promote

evidence-based policy design. These efforts, in turn, allow for knowledge exchange, sharing of common frameworks for ICT data collection, and regional comparability.

## Brazilian Presidency of BRICS

In 2025, Cetic.br|NIC.br played a strategic role in supporting Brazil's presidency of BRICS, contributing to both the BRICS Working Group on ICT Cooperation and the BRICS SME Working Group.

### BRICS Working Group on ICT Cooperation

Cetic.br|NIC.br provided technical support to the Brazilian Ministry of Communications in the preparation of one of the presidency's key deliverables: the report *Assessing Universal and Meaningful Connectivity in BRICS Countries: An Indicator-Based Overview*.

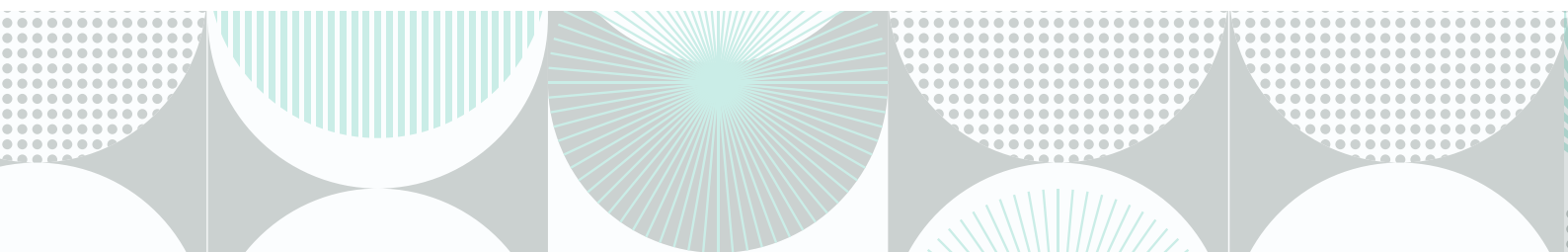
The publication contributes to the global debate on digital inclusion by examining how connectivity is defined, measured, and monitored. It highlights the growing relevance of meaningful connectivity as a benchmark for digital inclusion and presents a comparative analysis of connectivity indicators across the 11 BRICS countries, based on data from the ITU Universal and Meaningful Connectivity Dashboard.

In addition to the publication, Cetic.br|NIC.br participated as a speaker in three official BRICS events during the Brazilian presidency:

- **Webinar “Digital Transformation and Meaningful Connectivity in the BRICS”** (online, April 16, 2025), organized by FGV Direito Rio, Cetic.br|NIC.br, the Ministry of

Foreign Affairs, and the Ministry of Communications. Participation in the opening segment “Setting the Scene.”

- **Digital BRICS Forum & Exhibition** (Brasília, May 29–30, 2025), organized by the Ministry of Communications and Anatel. Participation in Panel 1, “Universal and Meaningful Connectivity,” alongside representatives from Anatel, the Ministry of Communications, and BRICS member countries.
- **Ministerial Meeting of the BRICS Working Group on ICT Cooperation** (June 2, 2025), organized by the Ministry of Foreign Affairs, the Ministry of Communications, and Anatel. Cetic.br|NIC.br delivered an intervention in the plenary session, presenting Brazil's experience in measuring meaningful connectivity, titled “Meaningful Connectivity: Paths for Measurement and the Brazilian Experience.”



## BRICS SME Working Group

Within the BRICS SME Working Group, Cetic.br|NIC.br co-organized the “Digital Transformation in the Age of Artificial Intelligence” webinar series and a joint publication in partnership with the Brazilian Ministry of Entrepreneurship, Microenterprise and Small Business (MEMP).

The series featured two webinars:

- **“AI and Digital Transformation of BRICS SMEs”** (March 13, 2025)
- **“Market Access and Internationalization for BRICS SMEs”** (April 2, 2025)

Organized by MEMP and Cetic.br|NIC.br, with the institutional support of the Brazilian Micro and Small Businesses Support Service (SEBRAE), the initiative featured Cetic.br|NIC.br moderating the panels “Digital Skills for the Future: Building Capacities for AI Integration” and “Market Access and Internationalization for BRICS SMEs.”

Cetic.br|NIC.br also led the development of the publication *Digital Transformation in the Age of Artificial Intelligence: Empowering SMEs in the BRICS for a Digital Future*, an official deliverable of the BRICS SME Working Group under Brazil’s 2025 presidency. The report was published on May 22, 2025.

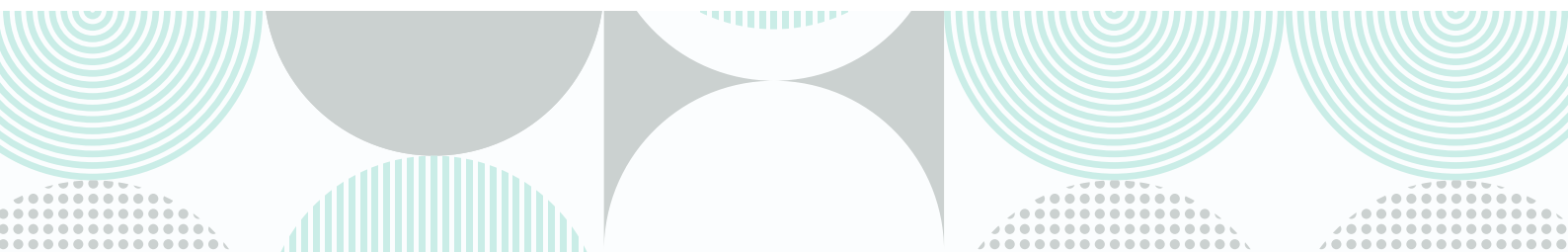
## Brazilian Presidency of Mercosur

At the core of Mercosur’s Brazilian pro tempore presidency in 2025, Cetic.br|NIC.br organized the webinar “Digital Transformation in the Age of Artificial Intelligence: Strengthening MSMEs in Mercosur for a Competitive Future” in partnership with MEMP.

The webinar identified priority areas for the formulation of regional public policies aimed at promoting digital inclusion and strengthening the productive capacity of micro-, small-, and medium-sized enterprises. It fostered dialogue among stakeholders and contributed to defining strategic axes for coordinated regional action.

Following the event, Cetic.br|NIC.br coordinated the preparation of a technical publication under the same title, incorporating the contributions generated during the discussions. The publication was officially launched at the Mercosur summit in December 2025.

The outcomes of the initiative contributed to consolidating a shared regional diagnosis of the digital transformation of MSME, enabling a common understanding among Mercosur countries of the challenges and opportunities associated with advancing digitalization in the region.



## South Africa Presidency of the G20

In 2025, Cetic.br|NIC.br contributed to the G20 Digital Economy Working Group (DEWG) under the presidency of South Africa, with a focus on Priority 1 (Digital Inclusion/

Meaningful Connectivity) and Priority 4 (Equitable, Inclusive, and Just Artificial Intelligence).

### G20 DEWG Priority 1 – Digital Inclusion/Meaningful Connectivity

Under Priority 1, Cetic.br|NIC.br contributed to discussions on strengthening digital statistics to support evidence-based policy-making:

- Participation in the “Workshop on Funding Digital Statistics” (April 7, 2025).
- Contribution to the development of the issue note “Funding Digital Statistics:

Knowledge Resource and Workshop for the SA G20 Digital Economy Working Group.” The document was prepared in collaboration with the International Telecommunication Union (ITU) and Research ICT Africa, positioning Cetic.br|NIC.br as a knowledge partner in advancing sustainable funding models for digital data production.

### G20 DEWG Priority 4 – Equitable, Inclusive, and Just Artificial Intelligence

Under Priority 4, Cetic.br|NIC.br engaged in policy discussions addressing AI capacity building, inequality, and the societal impacts of emerging technologies:

- Participation in the G20 Workshop on AI Capacity Building, in the session “UNESCO’s AI and Digital Transformation Competency Framework in Action” (April 9, 2025), in partnership with Research ICT Africa.
- Participation in the G20 Workshop on Artificial Intelligence and Inequality, contributing to the session “The AI

Ecosystem and its Cross-Sectoral Impact: Setting the Scene” (June 4, 2025).

- Contribution to the issue brief “Plumbing the Depths of Deepfakes: What’s at Stake, What’s to Be Done: An Issue Brief for the G20 Digital Economy Working Group.”
- Co-organization of the Workshop on Generative AI and its Evolving Ability to Produce High-Quality Deepfakes at Low Cost (June 9, 2025), in partnership with Research ICT Africa.



## ICT and Children

### Kids Online Networks

The Center has contributed to the agenda of children's rights in the digital environment not only through the annual implementation of the ICT Kids Online survey but also by strengthening the Latin American Kids Online network, which is supported by the Latin America and the Caribbean Regional Office of UNICEF and ECLAC. The ICT Kids Online surveys aim to generate robust evidence on children's and adolescents' Internet use and to inform the development of data-driven policies, programs, and regulatory frameworks.

In 2025, the Center provided methodological support for Bolivia's first national implementation of the Kids Online survey. As part of its technical cooperation efforts, Cetic.br|NIC.br assisted in reviewing the national report and refining the survey questionnaires. Launched in June 2025, the report provides key insights into children's Internet access and use in Bolivia, as well as associated risks and coping strategies.

### Digital Governance Dialogues: Capacity Development and Cooperation in Digital Governance Capacities in the PALOP

In partnership with UNU-EGOV, the first webinar of the initiative "Dialogues on Digital Governance: Capacity Development and Cooperation in Digital Governance Capacities in the PALOP" was held in October 2025. The inaugural webinar marked the official launch of the initiative and brought together representatives from Portuguese-speaking African (PALOP) countries to share national

digital governance strategies, promoting a dialogue on the contribution of these policies to institutional strengthening, digital inclusion, and the modernization of the public sector. The session also highlighted the importance of measurement and indicators in the design, monitoring, and evaluation of national digital governance actions.

## ICT in Health

In addition to regularly producing statistics and publishing reports, Cetic.br|NIC.br contributes to the agenda on ICT in the health sector in two main ways: by participating in working groups devoted to generating methodological frameworks; and by implementing capacity-building activities targeting Latin American and Caribbean countries. In 2025, Cetic.br|NIC.br provided technical support to the Ministry of Health of El Salvador, which will implement the first ICT in Health national survey in partnership with Inter-American Development Bank (IDB), and continued to provide technical support to

the Colombian Ministry of Health and Social Protection (MSPS) for the implementation of its national survey on the use of ICT in healthcare. The initial methodology transfer workshop, funded by the IDB, was held in Bogotá in 2023. The survey has since been completed, and the results were presented by the MSPS. Finally, in 2025 Cetic.br|NIC.br was invited to join the Technical Advisory Committee (TAC) of the Monitoring and Evaluation Design Project, developed in the context of the Pan-American Highway for Digital Health (PH4H) an initiative led by the Pan American Health Organization (PAHO/WHO) and the IDB.

# Dialogue With Stakeholders

ICT is a key cross-cutting technology that impacts multiple sectors and requires the involvement of multiple and diverse stakeholders in the development of knowledge and information societies. Dialogue among these stakeholders can be established in many ways: cooperation agreements between institutions, sharing microdata bases, participation in forums and discussion groups, and meetings to present the indicators produced by the Center. In 2025, there were 13 ongoing cooperation agreements with

## Policy Dimension: Digital Economy

In 2025, Cetic.br|NIC.br continued its involvement in international research projects. One example is participation in the committee that evaluates the indicators that make up the Latin American Artificial Intelligence Index, led by the National Center for Artificial Intelligence of Chile (CENIA) and the Economic Commission for Latin America and the Caribbean (ECLAC), which includes various stakeholders from the AI ecosystem in the region. The goal of the index is to evaluate AI production and adoption in the region, aiming to inform public policies that support the region's technological maturity by identifying challenges and opportunities.

Cetic.br|NIC.br also took part in two working groups in the context of the eLAC 2024 Conference: one devoted to meaningful connectivity and another to data production in Latin America and the Caribbean.

In 2025, Cetic.br|NIC.br continued its partnership with the Ministry of Development, Industry, Trade, and Services (MDIC) in supporting public policy development, with the ICT Enterprises Survey incorporated into the monitoring of the "Nova Indústria Brasil" program. The indicators from the survey helped identify needs and establish goals, and it returned to an annual frequency in order to monitor the effects of the policy on the digital maturity of Brazilian companies.

government and international organizations, which, in addition to consolidating long-term cooperation and strengthening the Center's relationships with these organizations, allow the establishment of joint activities and the sharing of experiences, data, and methodologies among institutions. Below are some of the important actions carried out by the Center in 2025 that allowed for closer ties with multiple and diverse stakeholders throughout the year, reinforcing its commitment to the dissemination of information and knowledge:

## Digital Government

Cetic.br|NIC.br actively participated in the 26th Annual International Conference on Digital Government Research (dg.o 2025), held June 9-12, 2025, in Porto Alegre, Brazil. The Center organized the workshop "Digital Government Measurement for Research and Public Policies," led by Manuella Maia Ribeiro, which introduced demand- and supply-side digital government indicators and their applications for research and policymaking. Manuella also presented the co-authored paper "Context-sensitive measurement: Addressing the local context in smart city assessment," with Erico Przeybilovicz (Center for Technology in Government, University at Albany) and Delfina Soares (UNU-EGOV), contributing to discussions on context-aware digital government measurement. In addition, Fábio Senne participated in the plenary session "Government and Academia Panel: Digital Government Achievements and Challenges for Reducing Inequalities," where he shared Cetic data and insights alongside representatives from government and academia. Cetic also coordinated the panel "Digital Government and Meaningful Connectivity: Opportunities and Challenges for Theory and Practice," moderated by Manuella Maia Ribeiro and featuring Fábio Senne (Cetic.br|NIC.br), Maria Alexandra Cunha (FGV, Brazil), and Elsa Estevez (Universidad Nacional del Sur, Argentina).

As part of its engagement in national digital government measurement initiatives, Manuella Maia Ribeiro also represented Cetic.br|NIC.br at the Workshop of the External Technical Committee on the Digital Services Supply Index (ABEP-TIC). The meeting focused on discussing the revision of the index, which assesses the provision and adoption of digital public services by Brazilian states. The workshop convened representatives from key institutions, including the World Bank, Insper, and the Tony Blair Institute, fostering technical exchanges on methodological improvements and strengthening evidence-based approaches to evaluating subnational digital government performance.

In June 2025, on the occasion of the Conference on AI and Digital Transformation in the Public Sector held in France, Cetic.br|NIC.br became a member of the SPARK-AI Alliance, a UNESCO-supported international network dedicated to strengthening capacities in AI, digital transformation, and data governance within the public sector. The Alliance brings together governments, academic institutions, and research centers to foster international cooperation, knowledge exchange, and the development of training initiatives focused on responsible and human-centered AI adoption. As part of its initial contributions to the network, Cetic.br|NIC.br is leading the Portuguese translation of the MOOC “AI and Digital Transformation in Government,” developed by UNESCO in partnership with the Saïd Business School (University of Oxford).

In 2025, Cetic.br|NIC.br strengthened its cooperation on digital governance with PALOP countries through the creation of Digital Governance Dialogues: Capacity Development and Cooperation in Digital Governance Capacities in the PALOP, an initiative developed in partnership with the United Nations University Operating Unit on Policy-Driven Electronic Governance (UNU-EGOV). The initiative aims to advance capacity development, public sector innovation, and data-informed policymaking among PALOP countries, with activities planned between 2025 and 2027. The first activity under this project took place in October 2025: an inaugural webinar that brought together representatives from PALOP countries to

discuss shared priorities and challenges in building inclusive and context-sensitive digital governance agendas and strategies.

## ICT in Education

Since the planning of the ICT in Education survey in 2009, Cetic.br|NIC.br has worked in close collaboration with government bodies, particularly the Ministry of Education (MEC), through its Secretariat of Education, with which Cetic.br|NIC.br has maintained a technical cooperation agreement since 2017. Institutional support from government institutions is essential for the effective data collection of the ICT in Education survey in schools, as well as for the development of new studies and indicators. The data collected through these studies, in turn, provide important inputs for the formulation of public policies.

In this context, the 2024 edition of the ICT in Education survey, whose indicators were released in 2025, benefited from contributions from the Secretariat for Basic Education and the Secretariat of Digital Policies of the Social Communication Secretariat of the Presidency of the Republic (Secom) to improve questions related to school connectivity and to the curriculum on computational thinking, media education, and digital citizenship in educational institutions. These topics relate to the monitoring of recent policies enacted by the federal government, such as the National Digital Education Policy (Pned) (Law No. 14.533/2023) and the Standards on Computing in Basic Education – Complement to the Common National Curricular Base (BNCC) (CNE/CEB Opinion No. 2/2022).

Cetic.br|NIC.br also participated in working groups and discussion forums organized by government institutions for the definition of programs, policies, and guidelines related to the appropriation of digital technologies by students, educators, and basic education schools. These included discussions surrounding the enactment of Federal Law No. 15.100/2025, which restricts the use of personal digital devices—such as mobile phones—by students in basic education schools, and Federal Law No. 15.211/2025, which establishes the Digital Statute of the Child

and Adolescent (Digital ECA). In this regard, Cetic.br|NIC.br was also invited to contribute to the working group responsible for drafting Framework for the Development and Responsible Use of Artificial Intelligence in Education, organized by the Secretariat for Information Management, Innovation and Evaluation of Educational Policies of the Ministry of Education.

Also within the scope of the relationship between education and digital services based on AI, Cetic.br|NIC.br supported UNESCO Brazil and MEC in organizing the seminar “AI in Basic Education: Building National Frameworks.” The event brought together representatives from federal, state, and municipal government institutions, as well as researchers and specialists working in civil society organizations, to discuss proposals for the responsible, ethical, and critical use of these resources in the learning and teaching process. At the end of the year, the UNESCO Regional Office for Latin America and the Caribbean (OREALC/UNESCO Santiago) initiated dialogue with Cetic.br|NIC.br to join efforts in creating an observatory on AI in education in the region.

In 2025, Cetic.br|NIC.br also participated in relevant international panels and discussions on education and digital technologies, such as Digital Learning Week 2025, organized by UNESCO in Paris; and the seminar K-12 Technology and Engineering Curricula in the Era of Artificial Intelligence: Conceptual Innovation and Content Development, organized by the UNESCO Chair on Technology and Engineering Education for Children and Youth, at Nanjing University in China.

Indicators related to education produced by Cetic.br|NIC.br were also disseminated through researchers’, students’, and teachers’ access to survey microdata, such as those from the ICT in Education survey. In addition, Cetic.br|NIC.br participated in academic activities with higher education students and research groups, supporting the development of studies and data analysis methods aimed at improving research on the quality of access to education.

## Children’s Rights

Cetic.br|NIC.br joined the working group for the development of the guide *Crianças, Adolescentes e Telas: Guia sobre Uso de Dispositivos Digitais* (Children, Teens, and Screens: A Guide to Using Digital Devices), published on March 11, 2025. The work was coordinated by Secom and involved the participation of six additional ministries (the Civil House of the Presidency; Education; Health; Justice and Public Security; Human Rights and Citizenship; and Social Development, Family, and Hunger Eradication) as well as representatives from civil society. The guide provides recommendations on the healthy use of screens while promoting practices that reduce the risks associated with excessive use of digital devices. It is intended for parents, guardians, educators, and health professionals.

## ICT in Health

Cetic.br|NIC.br has a partnership with the Brazilian Company of Hospital Services (EBSERH), which is responsible for the administration of some of the university hospitals in Brazil that are included in the survey sample. The results were presented at seminars to EBSERH’s technical staff, organized by this institution. In 2025, representatives from EBSERH contributed to the dissemination of the survey among their associates to encourage participation in the interviews.

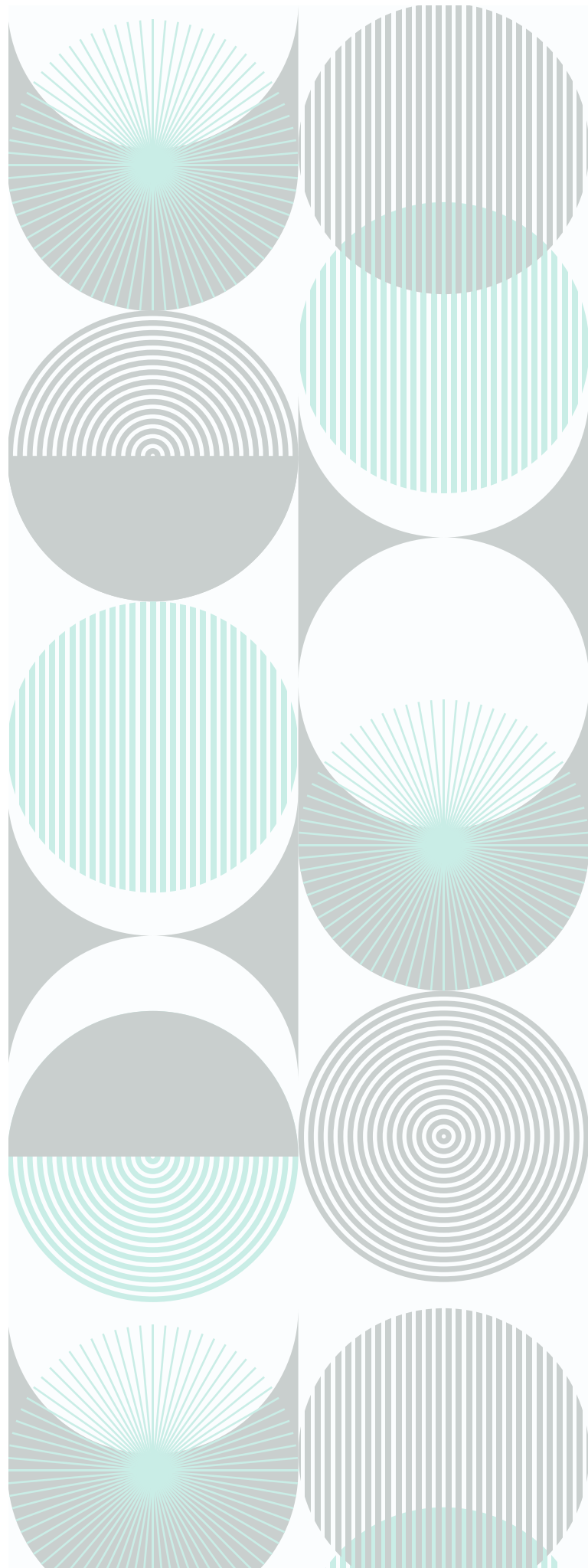
Cetic.br|NIC.br has a cooperation agreement with the National Council of Municipal Health Secretaries (CONASEMS), which aims to expand the dissemination of the results of the ICT in Health survey in municipalities and guarantee that a representative of the council will serve as a specialist who participates in Cetic.br|NIC.br’s expert group meetings for the survey consultations, among other contributions. In 2025, the cooperation contributed to the dissemination of the ICT in Health survey to municipal health secretaries.

Cetic.br|NIC.br has renewed the Technical Cooperation Agreement with the Brazilian Ministry of Health, which aims to establish a partnership for the development of studies, research, and indicators that contribute to the monitoring and evaluation of public policies in the area of health. Among the planned activities are the sharing of microdata from Cetic.br|NIC.br research, collaborations for the development of studies, and support for Ceptro.br's "Connectivity in Health" project, including the installation of SIMET (NIC.br's Internet quality meter) in public units, in order to support the formulation, monitoring, and decision-making in public health information and IT policies.

## Measurement and Data Production for Policymaking

In 2025, Cetic.br|NIC.br continued its collaboration with the SEADE Foundation—the official statistics agency of the São Paulo state government—advancing efforts to share information, refine research methodologies through technological innovations, and conduct joint studies. As part of this partnership, the agency published five analytical studies in 2025:

- *ICT access infrastructure in the household, individual Internet access, and digital skills* (March 2025);
- *Internet consumption habits, 2023–2025* (May 2025);
- *Overview of ICTs in the state of São Paulo (2014–2024): Connectivity and Digital Inclusion* (June 2025);
- *App-based consumption habits, 2023–2025* (July 2025);
- *The Popularization of Smart TVs* (October 2025).



# Producing Knowledge on ICT

The production and sharing of insights about themes related to knowledge and information societies are the most important lines of action of Cetic.br|NIC.br. In 2025, Cetic.br|NIC.br actively participated in several academic discussion forums, including presenting survey results and data analyses, debating methodological challenges, promoting thematic discussions, and proposing discussion panels with important stakeholders. Relevant events in which the Center participated in 2025 to present and share what the Center is producing are listed below:

## Culture and Technologies

- XIV International Seminar on Cultural Policies (Casa de Rui Barbosa Foundation). Paper presentation: Digital Technologies in Culture Points: The Construction of the National Culture System according to the ICT in Culture Survey (2016–2022). Working Group: Cultural Policies. In person, Rio de Janeiro, Brazil. June–July 2025.
- DPLST-LAC-ABRI 2025 Conference: Development and Diplomacy in the Global South (ABRI and ISA-LAC). Paper presentation: Cultural Diplomacy on Social Media: Shaping the Digital Agenda in the IberCultura Viva Program. In person, São Paulo, Brazil. July 2025.
- 21st Multidisciplinary Studies Meeting on Culture - Enecult (Federal University of Bahia). Paper presentation: Qualification of Museum Records from Two Sources and Matching. Working Group: Cultures and Data Science. In person and online, Salvador, Brazil. August 2025.

## Digital Government

- International Workshop Applications of Artificial Intelligence in the Brazilian Civil Registry (World Bank). Presentation on OBIA and Cetic.br|NIC.br's AI data. In person, São Paulo, Brazil. April 2025.
- Launch of the study "Use of Digital

Services: A Portrait of Brazil" (IDB and MGI). Roundtable: Use of Digital Services: How to Design More Inclusive Digital Government Policies?. In person, Brasília, Brazil. April 2025.

- Lecture in the course "Smart Cities: Technology, Digital Transformation and Urban Innovation" (INSPER). Presentation of results from Cetic.br|NIC.br surveys. In person, São Paulo, Brazil. May 2025.
- 2nd IC<sup>2</sup> - International Conference on Theory and Practice of Intelligent Cities (SCBA). Presentation: Smart Cities in Brazil: Data on Municipal Digital Transformation. In person, São Paulo, Brazil. June 2025.
- 26th Annual International Conference on Digital Government Research (dg.o 2025) (DGS). Workshop: Digital Government Measurement for Research and Public Policies. In person, Porto Alegre, Brazil. June 2025.
- SECOP 2025 - National Seminar on ICT for Public Management (ABEP-TIC). Presentation: Meaningful Connectivity and Digital Inequalities in Brazil. Panel: "Challenges and Opportunities in the Use of Artificial Intelligence in the Brazilian Public Sector." In person, Brasília, Brazil. August 2025.
- EGOV2025 - IFIP EGOV-CeDEM-EPART 2025 (DGS). Paper presentation: Women's Safety Perception in the Smart City: Does Smartness Make a Difference?. In person, Krems, Austria. September 2025.
- International Seminar Artificial Intelligence and the Justice System in Latin America: Lessons Learned and Pathways to Safeguarding Rights (General Ombudsman's Office of the Public Defender's Office of the State of São Paulo and EFF). Panel: Transparency: Approaches, Gaps, and Concrete Open Government Initiatives. Presentation of data on the use of Artificial Intelligence in the public sector from the ICT

- in Government survey. In person, São Paulo, Brazil. October 2025.
- UNESCO Conference on Capacity Building in AI and Digital Transformation in the Public Sector (UNESCO). In person, Paris, France. June 2025.
- Webinar Harnessing Digital Technologies for Human Rights in Climate Mobility Contexts. Participation in the webinar organized by the Ministry of Management and Innovation in Public Services of Brazil (MGI) and the International Organization for Migration (IOM). Online. October 2025.
- 3rd Seminar Challenges of the Federation: Municipal State Capacities. Panel: Sectoral Indicators of Municipal State Capacities. In person, Brasília, Brazil. August 2025.
- Workshop – External Technical Committee – Digital Services Supply Index (ABEP-TIC). Online and in person, Brasília, Brazil. November 2025.
- CIES 2025: Envisioning Education in a Digital Society (CIES). Panel: Digital Futures and Schooling: Between Global Debates and Regional Experiences. In person, Chicago, United States. March 2025.
- Digital Transformation Collaborative (DTC) Technical Visit (UNESCO and ITU). In person, Brasília, Brazil. April 2025.
- Connected Education 2025 Seminar (Teletime). Presentation: Insights from the ICT in Education Survey. In person, Brasília, Brazil. April 2025.
- Launch of the report “Monitoring Strategies to End Violence against Children – Adaptation of INSPIRE Indicators for Brazil” (Brazilian Coalition to End Violence against Children). In person and online, São Paulo, Brazil. April 2025.
- Seminar on the Prevention and Response to Violence against Children (PROTECA Project – UFPR). In person, Curitiba, Brazil. April 2025.

## Education and Children’s Rights

- YouTube Health Accelerator: Mental Health and Well-Being for Young People (YouTube Health and Vita Alere Institute). Panel: Safe Communication in Mental Health in the Digital Context. Online. January 2025.
- Indicators on Basic Education and Digital Technologies in Brazil (UnB). Presentation of data from the ICT in Education survey to students attending the pedagogy course. Online. January 2025.
- RightsCon 2025 (Access Now). Panel: Upholding Rights in the Digital Age: Unpacking the Best Interests of the Child Principle. In person, Taipei, Taiwan. February 2025.
- Safer Internet Day (SaferNet Brasil and NIC.br|CGI.br). Panel: Public Policies for the Online Safety of Children in Brazil: Indicators and Experiences in Light of International Frameworks. In person, São Paulo, Brazil. February 2025.
- Launch of the publication “Children and Screens: Guide to the Use of Digital Devices” (Brazilian Federal Government). In person, Brasília, Brazil. March 2025.
- Connectivity, Technology, and Digital Citizenship – Special Committee on the National Education Plan (Chamber of Deputies). In person and online, Brasília, Brazil. May 2025.
- Roundtable “Building Digital Safety and Opportunities in Brazil and Beyond” (Roblox). In person, São Paulo, Brazil. May 2025.
- International Seminar Children Connected – Kids Online Argentina (UNICEF Argentina). Panel: The Situation of Children in the Region: A Comparative Perspective and the Strategic Use of Evidence in Decision-Making. In person, Buenos Aires, Argentina. May 2025.
- Is Your Child Safe? Digital Violence against Children (Hospital Pequeno Príncipe). Presentation of data from the ICT Kids Online Brazil survey. Online. May 2025.
- Well-Being of Children and Young People Online (Google and YouTube). In person, São Paulo, Brazil. May and September 2025.

- Brazilian Internet Forum – FIB15 (CGI.br). Panel: Early Childhood and the Internet: Data, Evidence and Networks to Advance a Care Agenda. In person, Salvador, Brazil. May 2025.
- Indicators on Basic Education and Digital Technologies in Brazil (UnB). Presentation of data from the ICT in Education survey to students at the Faculty of Education and UNESCO Chair in Open Education and Technologies for the Common Good. Online. June 2025.
- AI in Basic Education: Building National Frameworks (MEC, UNESCO, and NIC.br). Panel: Artificial Intelligence, Learning, and Curriculum: Promoting Students’ Digital Skills. Panel moderation: Digital Educational Resources with AI: Challenges and Potential for Learning. In person, Brasília, Brazil. July 2025.
- Interactive Sessions on a New WhatsApp Feature (Meta). In person, São Paulo, Brazil. July 2025.
- Workshop: Data Governance and Artificial Intelligence in Education. In person, Brasília, Brazil. August 2025.
- National Plan for the Digital Transformation of Education in Chile – Connectivity and Infrastructure Pillar (UNESCO Santiago Office). Online and in person, Santiago, Chile. August 2025.
- Public Hearing of the Education Committee with the Committee on Social Security, Social Assistance, Childhood, Adolescence, and Family on the adultification and early sexualization of children and adolescents on social media. In person and online, Brasília, Brazil. August 2025.
- UNESCO Digital Learning Week 2025 - Artificial Intelligence (AI) in Education (UNESCO). Panel: The Future of Curriculum in the Age of AI. In person, Paris, France. September 2025.
- 22nd Brazilian Sociology Congress (Brazilian Sociology Society). Panel: Research Committee on Digital Sociology. In person, São Paulo, Brazil. July 2025.
- Meeting with Dr. Michael Rich (Palavra Aberta Institute and ESPM). In person, São Paulo, Brazil. September 2025.
- 20th National Seminar on Distance Education (ABED). Lecture on the production of data on access to education in Brazil; Workshop on population data production. In person, São Paulo, Brazil. September 2025.
- 21st Debate Forum of the Vera Cruz School. Lecture presenting data from the ICT Kids Online Brazil survey for students and teachers. In person, São Paulo, Brazil. September 2025.
- Technology and Government Research Group (FGV EAESP). Presentation and discussion of ICT in Education survey data. Online. October 2025.
- 6th edition of Cyber NexGen (Teckids). Opening panel participation. In person, São Paulo, Brazil. October 2025.
- AoIR Conference 2025: Ruptures (AoIR). Panel: Disrupting Public and Political Discourses on the Relationships between Children and Digital Technologies in Latin America: Lessons from the Global Kids Online Studies. In person, Niterói, Brazil. October 2025.
- International Seminar on Challenges for the Evaluation of Public Policies in Basic Education (Ipea). Panel: Connectivity, Digital Platforms, and Innovation in Basic Education. In person, Brasília, Brazil. November 2025.
- AI and Education Series: Technologies, Practices, and the Future (Sesc Piracicaba). Presentation: Artificial Intelligence and Teaching Work: Algorithmic Online Reputation Systems, Information Access Dynamics, and Classroom Practices. In person, Piracicaba, Brazil. November 2025.
- 1st International Research Conference on Digital Psychology (USP). Roundtable: Childhood and Digital Media. In person and online, São Paulo, Brazil. November 2025.

- Webinar “Planning with Sustainable Impact: The Challenge of Building Education Policies in Times of AI” (UNESCO Santiago Office and IIEP). Online. November 2025.
- UNESCO Chair conference of K-12 Technology and Engineering Curricula in the Era of Artificial Intelligence: Concept Innovation and Content Development (UNESCO). Presentation: Digital Technologies and AI in Brazilian Primary and Secondary Education Curriculum. In person, Nanjing, China. December 2025.
- National Consultation on the Disrupting Harm Research (ECPAT International, INTERPOL Secretariat, and UNICEF Innocenti). In person, Brasília, Brazil. December 2025.
- CPR Latam 2025. Panel: Digital Transformations and Sovereignty. Presentation: Artificial Intelligence in Healthcare: Perceptions of Healthcare Professionals in Brazil. In person, Buenos Aires, Argentina. October 2025.
- 12th Brazilian Congress of Telehealth and Digital Health (ABTMS). Panel: Indicators for the Digital Transformation of the Unified Health System (SUS). In person, Rio de Janeiro, Brazil. October 2025.
- 1st Symposium on Forensic Medicine and Medical Expertise (EPM and Imsec). Panel: Application of Artificial Intelligence in Medical Expertise. Online and in person, São Paulo, Brazil. October 2025.
- 14th Brazilian Congress on Public Health (Abrasco). Short course: Digital Inequalities in Health: Current Overview and Policy Recommendations. In person, Brasília, Brazil. November 2025.

## Health and Technologies

- Enabling Technologies for Digital Health Transformation: A View from Observatories (RNP). Presentation of the main results of the study “Artificial Intelligence in Healthcare: Potential, Risks, and Perspectives for Brazil.” Online, Brazil. June 2025.
- 7th International Conference on Public Policy (International Public Policy Association). Presentation: “AI Regulation in Brazil: Ideas in Motion,” as well as results from the study “Artificial Intelligence in Healthcare: Potential, Risks, and Perspectives for Brazil.” In person and online, Chiang Mai, Thailand. July 2025.
- 18th Latin American Congress of Social Medicine and Collective Health (ALAMES).
- Workshop: Digital Inclusion as a Guiding Principle for Inclusive Digital Health in Primary Health Care. In person, Rio de Janeiro, Brazil. August 2025.
- 16th Seminar on Privacy and Personal Data Protection. Panel: Governance and Data Protection Programs in the Health Sector. In person, São Paulo, Brazil. August 2025.
- EmTech Brazil 2025 (MIT Technology Review). Roundtable: Open Health: New Directions for Health in Brazil. In person, São Paulo, Brazil. September 2025.

## Households and Digital Inclusion

- ABRINT Global Congress 2025 (ABRINT). Panel: Sustainable Business Models for Community Connectivity in Brazil. In person, São Paulo, Brazil. May 2025.
- RNP Workshop (RNP). Panel: Blockchain, AI, and Digital Technologies: The Role of Observatories. In person and online, Natal, Brazil. May 2025.
- Brazilian Internet Forum – FIB15 (CGI.br). Session: Cetic.br 20 Years: Producing Data and Analysis for Evidence-Based Digital Policies. In person, Salvador, Brazil. May 2025.
- 3rd Lusophone Internet Governance Forum. Panel: Digital Inclusion in Portuguese-Speaking Countries: Strategies to Reduce Digital Exclusion and Promote Universal Internet Access. In person, Maputo, Mozambique. September 2025.
- International Association for Safe and Ethical Artificial Intelligence 2025 Conference (IASEAI). In person, Paris, France. February 2025.

- HackaSertão - Community Networks and Digital Inclusion. Roundtable: Community Network, What on Earth Is That? In person, Pernambuco, Brazil. March 2025.
- World AI Summit. In person, Montreal, Canada. April 2025.
- ITU Regional Workshop for Latin America on Promoting and Measuring Universal and Meaningful Connectivity (ITU). Panels: Brazilian country case studies on (1) using ICT data for policymaking and (2) on measuring Internet access using mobile phone data. In person, Santo Domingo, Dominican Republic. April 2025.
- Everyone on the Web: Best Practices for Digital Accessibility (Ceweb.br). In person, São Paulo, Brazil. June 2025.
- Launch of the publication: "ICT Landscape in the State of São Paulo (2014–2024): Connectivity and Digital Inclusion" (SEADE). Presentation: Meaningful Connectivity: A New Perspective on Digital Exclusion. In person, São Paulo, Brazil. June 2025.
- AI Governance in Latin America London Workshop (UCL Institute of the Americas, RAI UK and CENIA). In person, London, United Kingdom. June 2025.
- Working Group Meeting on Meaningful Connectivity - eLAC2026 (ECLAC). Presentation: Methodologies for Measuring Digital Skills - Regional Framework; Relevant Indicators from a Gender Perspective in Measuring Digital Gaps in Latin America. Online and in person, Montevideo, Uruguay. August 2025.
- Update Week - Digital Law Graduate Program (ITS Rio). Presentation on meaningful connectivity, childhood, and privacy and data protection. Online. August 2025.
- AI Governance Pathways (CEBRI, USP, NIC.br, and IRCAI). In person, São Paulo, Brazil. August 2025.
- 5th Seminar on Internet Governance (Institute for Research on Internet and Society). Panel: Information Integrity and Meaningful Connectivity: Characteristics of Access to Information in the Brazilian Context. In person, Belo Horizonte, Brazil. September 2025.
- Seminar Strategic Intelligence in Science, Technology, and Innovation: Uses and Perspectives of Indicators for the Transformation of Public Policies (MCTI, CONSECTI, and CONFAP). In person, Brasília, Brazil. September 2025.
- International Seminar on Digital Inclusion: Meaningful Connectivity and Social Transformation (TCU). Panel: The Struggles of the Digitally Excluded. In person, Brasília, Brazil. September 2025.
- AoIR Conference 2025: Ruptures (AoIR). Panel: Investigating Information Integrity: Pathways for Research on Informational Practices on Digital Platforms. In person, Niterói, Brazil. October 2025.
- International Workshop on Submarine Cables and Data Centers (MCom). In person, Brasília, Brazil. October 2025.
- VI RISE-SASE 2025 Conference (SASE). Presentation: Gender Digital Inequalities in Brazil: Meaningful Connectivity and Barriers to Inclusion. In person, Niterói, Brazil. November 2025.

## Productivity and the Digital Economy

- Seminar: The Role of a Fair Wage in Building a More Just and Sustainable Brazil (Cebrap). Online. February 2025.
- Launch of the book Technology and Innovation: Connecting Public Policy and Competitive Growth in Brazil (ABES). Panel: Regulation and Protection in the Digital Environment. In person and online, São Paulo, Brazil. April 2025.
- 11th Market Research, Opinion, and Media Congress: AI Artificial Intelligence - Risk or Opportunity? (ABEP). Presentation: Producing Indicators on Artificial Intelligence in ICT Surveys by Cetic.br. In person, São Paulo, Brazil. April 2025.
- ABES Cybersecurity Working Group (ABES). Presentation of ICT Enterprises 2024 results. Online. May 2025.

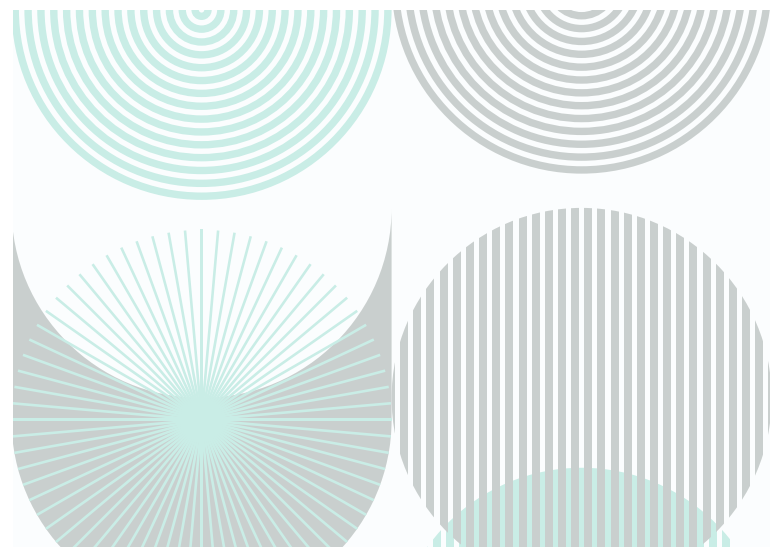
- Society for the Advancement of Socio-Economics Annual Conference (SASE). Presentation: Bridging the Digital Divide: Analyzing Inequalities among Formal and Informal Workers in Brazil through the Lens of Meaningful Connectivity. Presentation: Unequal Access, Unequal Opportunities: The Role of Digital Inequalities in Shaping Women's Participation in the Labour Market in Brazil. In person, Montreal, Canada. July 2025.
- What Do the Latest Surveys Say about AI in Brazilian Companies? (IEA/USP). Online and in person, São Paulo, Brazil. July 2025.
- ConectaNET (Ceptro.br). Presentation on Cetic.br for participants. In person, São Paulo, Brazil. August 2025.
- Connected Smart Cities 2025. Panel: Public Decisions Guided by Intelligence: Data, Algorithms, and Impact. In person, São Paulo, Brazil. September 2025.
- AI Brasil Experience (AIBRASIL.AI). Presentation of Cetic.br data on Artificial Intelligence. In person, São Paulo, Brazil. October 2025.
- 2nd ANPD Meeting of Data Protection Officers: Regulation, Rights and Technology in Dialogue (ANPD). Panel: Challenges in the Protection of Biometric Data. In person, Brasília, Brazil. August 2025.
- Privacy, Identity, and Intimacy in a Digital World (IPT). Online. November 2025

## Quantitative Methodologies and Statistics

- WAPOR 78th Annual Conference (WAPOR). Presentation: Exploring Methodological Alternatives in the ICT Panel Survey: Insights from Open-Ended Questions. In person, St. Louis, United States. May 2025.
- New Techniques and Technologies for Statistics (NTTS) 2025 (European Commission). In person, Brussels, Belgium. March 2025.
- Conference on Statistics and Data Science (Simon Fraser University). In person, Vancouver, Canada. June 2025.
- 65th ISI World Statistics Congress (ISI). Presentation: Statistical Disclosure Control Strategy for Microdata from the Brazilian ICT Enterprises Survey. In person, The Hague, Netherlands. October 2025.
- Webinar Designing and Integrating Nonprobability Samples for Official Statistics. Online. December 2025.
- National Conference of Data Producers and Users - CONFEST/CONFEGE (IBGE). Roundtable: Modernization of Statistical Production. In person, Salvador, Brazil. December 2025.

## Privacy and Data Protection

- The Importance of Security for Data Protection (ANPD and CERT.br|NIC.br). Panel: Challenges for Small and Micro Enterprises. In person and online, São Paulo, Brazil. January 2025.
- LGPD in the Public Sector: Challenges and Pathways to Compliance (Mackenzie Presbyterian University). Presentation of the survey "Privacy and Personal Data Protection." In person, São Paulo, Brazil. May 2025.
- WAPOR 78th Annual Conference (WAPOR). Presentation: Insights into Privacy and Data Protection Practices in Brazil. In person, St. Louis, United States. May 2025.
- 1st São Tomé and Príncipe Internet Governance Forum (AGER). Panel: Measurement of ICT Indicators; Indicators on Privacy and Data Protection. Online. July 2025.



# Published Papers

**Brandão, R. (2025, July 3).** *Artificial intelligence in healthcare: Potential, risks, and perspectives for Brazil* [Paper presentation]. 7th International Conference on Public Policy, Chiang Mai, Thailand.

**Brandão, R., & Lins, L. M. (2025).** Mapping the digital infrastructure in Brazil, notes for a study on data centers. *Internet Sectoral Overview*, 4(17), 1-19. <https://cetic.br/en/publicacao/ano-xvii-n-4-data-centers-no-brasil/>

**Costa, D. (2025).** Cetic.br e NIC.br: 20 anos de produção de estudos e indicadores sobre a disseminação de tecnologias digitais nos diversos setores da sociedade. In Associação Brasileira de Educação a Distância, *censo ead.br: Analytic Report of Distance Learning in Brazil 2024* (pp. 69-77).

**Macaya, J. F. M., Dhaou, S. B., & Cunha, M. A. (2025).** Women's Safety Perception in the Smart City: Does Smartness Make a Difference?. In I. Lindgren, M. P. R. Bolívar, M. Janssen, E. Loukis, F. Mareddu, P. Panagiotopoulos, G. V. Pereira, & E. Tambouris, *Lecture notes in computer science: Vol. 15944. Electronic government* (pp. 215-266). Springer. [https://doi.org/10.1007/978-3-032-01589-1\\_16](https://doi.org/10.1007/978-3-032-01589-1_16)

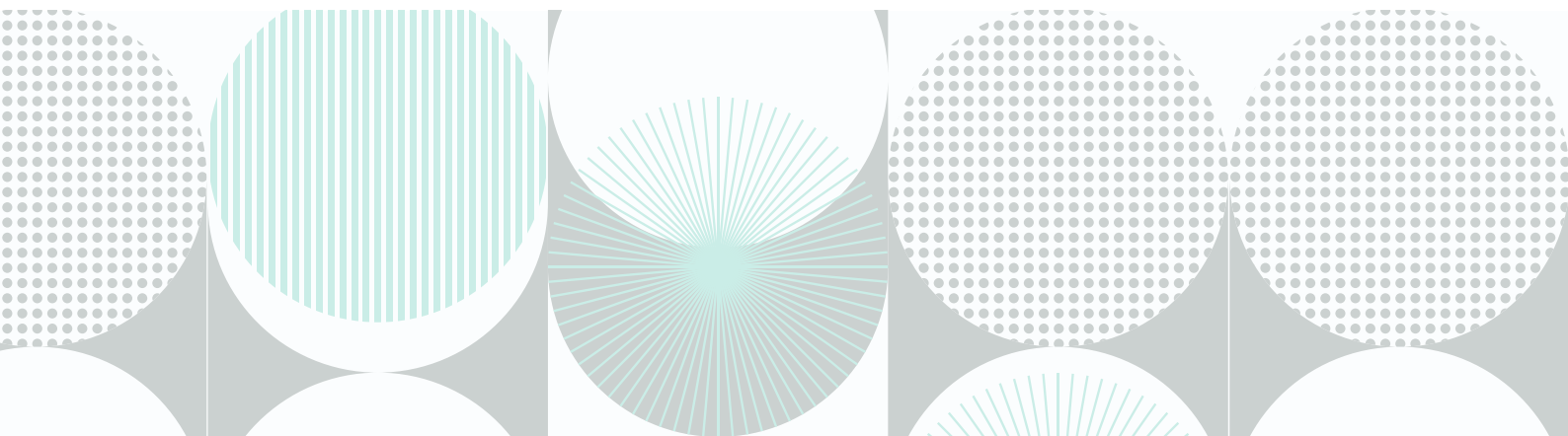
**Macaya, J. F. M., Ribeiro, M. M., & Lima, C. R. (2025).** Analysing the use of electronic government services through intersectional lens. In Equals Global Partnership for Gender Equality in the Digital Age & Korea Advanced Institute of Science and Technology (Orgs.), *Equals research report 2025 - Evidence to impact: Advancing gender empowerment in the digital age* (pp. 91-100).

**Portilho, L., Macaya, J. F. M., Ribeiro, M. M., & Lima, C. (2025).** Inclusive digital transformation: The scenario of digital service usage by women in Brazil. *Revista Panamericana de Salud Pública*, 49, e21.

**Ribeiro, M. M. (2025, May).** Workshop "Digital Government Measurement for Research and Public Policies." In *Conference on Digital Government Research*, Vol. 26.

**Ribeiro, M. M., Przeybilovicz, E., & Soares, D. (2025, May).** Context-sensitive measurement: Addressing the local context in smart city assessment. In *Conference on Digital Government Research* (Vol. 26).

**Ribeiro, M. M., & Segatto, C. I. (2025).** Artificial intelligence in Brazilian public organizations: Heterogeneities and capacity in information technology. *Revista de Administração Pública*, 59, e2024-0066.



## Brazilian Network Information Center (NIC.br)

### CEO

*Demi Getschko*

### CFO

*Ricardo Narchi*

### CTO

*Frederico Neves*

Director of Special Projects and  
Development

*Milton Kaoru Kashiwakura*

Chief Advisory Officer to CGI.br

*Hartmut Richard Glaser*

## Regional Center for Studies on the Development of the Information Society (Cetic.br)

### Manager

*Alexandre F. Barbosa*

### Research Coordination

*Fabio Senne*

### Survey Project Coordination

*Luciana Portilho and  
Manuella Maia Ribeiro*

### Coordination of Quantitative Methods

*Marcelo T. Pitta*

### Coordination of Qualitative Methods and Sectoral Studies

*Graziela Castello*

### Coordination of Process and Quality Management

*Nádilla Tsuruda*

## Cetic.br Advisory Board 2025

*Carolina Botero*

*Fundación Karisma*

*Eduardo Parajo*

*Durand do Brasil / Brazilian Internet  
Association (Abranet)*

*Raúl Echeberría*

*Latin American Internet  
Association (ALAI)*

*Sonia Jorge*

*Global Digital Inclusion Partnership  
(GDIP)*

*Tawfik Jelassi*

*United Nations Educational,  
Scientific and Cultural Organization  
(UNESCO)*

### Editorial Support

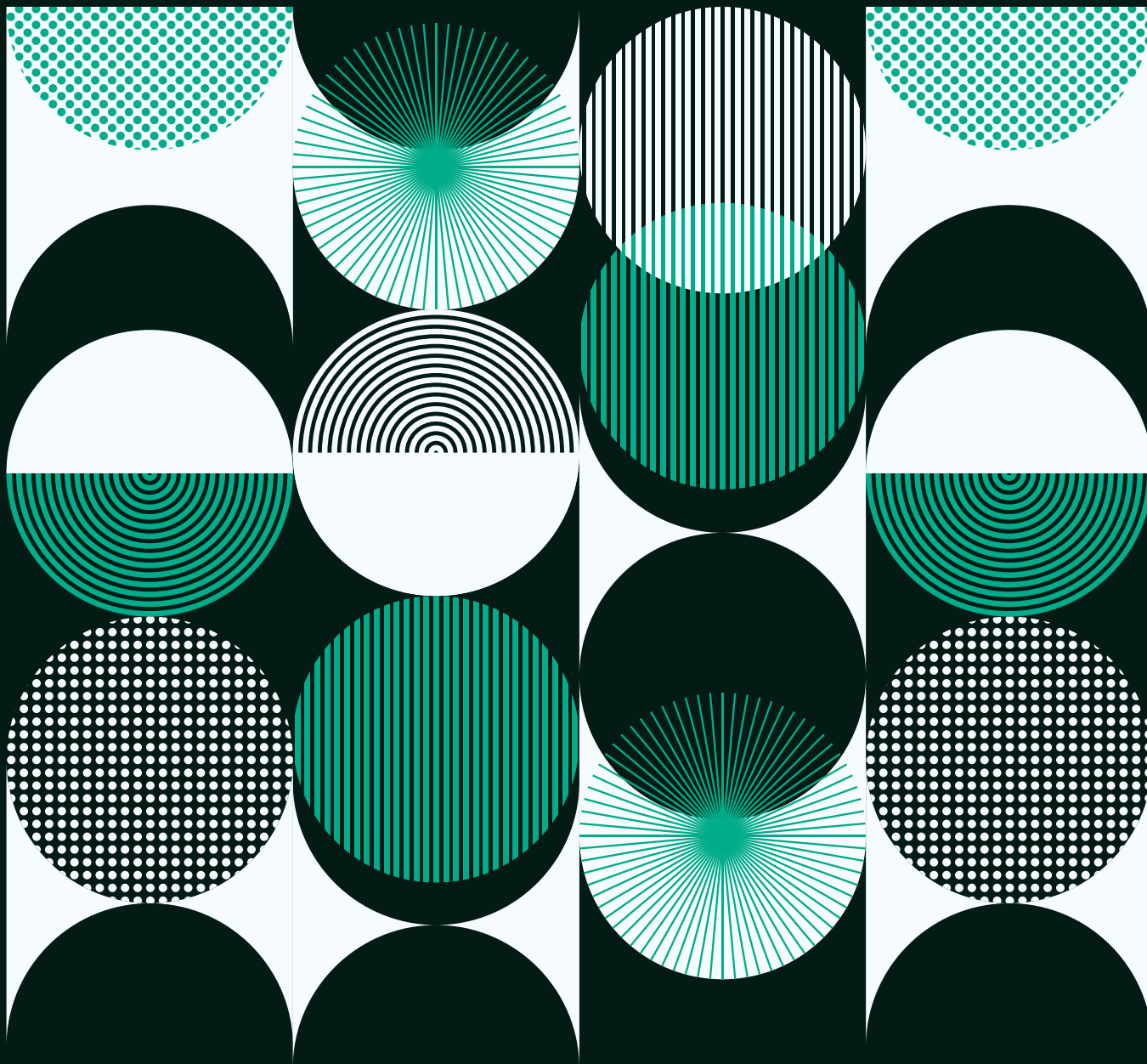
#### Translation into English:

*Prioridade Consultoria Ltda., Lorna  
Simons, Luana Guedes, Luísa Caliri,  
Maya Bellomo Johnson*

#### Graphic Design:

*Communication department/NIC.br*

---



X: @comunicbr | Facebook: NIC.br | Instagram: @nicbr  
| LinkedIn: NIC.br | Youtube: NICbrvideos | Telegram: nicbr

Website: <https://cetic.br>

Phone: 55 11 5509 3511 Fax: 55 11 5509 3512

