

COUNTRY: BRAZIL

SCORE: 50.27 | RANK: 18/24

Brazil recognizes the importance of information technology (IT) and the digital economy, but has struggled to implement a policy framework to foster the development of cloud computing. Some trade barriers to IT innovation remain in Brazil. Gaps also exist in the technology neutral and nondiscriminatory government procurement of IT.

Brazil still does not have specific privacy legislation in place, and is falling behind its peers in this area. Brazil has some gaps in intellectual property protection and enforcement in areas relevant cloud computing. Although positive trends are present, there is room for improvement. Brazil has implemented an effective intellectual property “safe harbor” process for cloud service providers. On the other hand, the Brazilian Patent and Trademark Office has a large backlog of pending applications, which prevents patents from being issued in a timely manner. Similarly, Brazilian courts also have a large backlog of cases.

However, Brazil does achieve better scores in relation to security and infrastructure, with significant improvements recorded in relation to Internet freedom in the past years.

Although Brazil’s overall rank changed substantially since the last Scorecard — from 22nd to 18th — this improvement did not stem from major improvements in Brazil’s policy or IT infrastructure development. Rather, this change was caused mostly from the rebalancing of the Scorecard methodology to reflect the developments that have occurred since the Scorecard was first launched and by other countries’ poorer performance in the areas relevant to cloud computing that are reflected in the Scorecard.

# BRAZIL	RESPONSE	EXPLANATORY TEXT
DATA PRIVACY (SCORE: 1.8/12.5 RANK: 23/24)		
1. Is a data protection law or regulation in place?	Draft	There is no general privacy or data protection law in Brazil. Privacy is a guaranteed right under Article 5 of the 1988 Constitution. The Constitution also provides for habeas data, which gives citizens the right to know what data is held about them and to correct it. In addition, some limited additional statutory protection for privacy can be found in the Consumer Protection Law 1990. The Brazilian Internet Civil Rights Law, Federal Law No. 12965/2014, provides numerous legal rights for Brazilian citizens and Internet users, including some limited protection around collecting and sharing personal data. In addition, there are some specific pieces of legislation that address Privacy rights, for example financial sector regulation. There are currently two versions of privacy bills pending Congressional approval in Brazil (one at the House of Representatives and one at the Senate). Discussions on the bills have been slow and as of July 2017, bills were still being discussed at Committee level.
2. What is the scope and coverage of the data protection law or regulation?	Not applicable	No law is in place at this stage. The current legislative proposals are comprehensive in scope.
3. Is a data protection authority in place?	✘	There is no effective privacy agency or regulator in Brazil. As a result of the discussions on the Personal Data Protection Bills, a data protection authority may be created by the Administration, but an additional piece of regulation and/or legislation will be required.
4. What is the nature of the data protection authority?	Not applicable	The nature of the proposed regulator has not yet been finalized.
5. Is the data protection authority enforcing the data protection law or regulation in an effective and transparent manner?	Not applicable	There is no effective privacy agency or regulator in Brazil.
6. Is the data protection law or regulation compatible with globally recognized frameworks that facilitate international data transfers?	Not applicable	There is no general privacy or data protection law in Brazil. It is too early to assess whether the proposed legislation will be compatible with global frameworks, although the provisions are largely based on the European Data Protection Directive.

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7. Are data controllers free from registration requirements?	✓	There are no data registration requirements in Brazil.
8. Are there cross-border data transfer requirements in place?	No requirements	There are no cross-border data transfer requirements in place in Brazil.
9. Are cross-border data transfers free from arbitrary, unjustifiable, or disproportionate restrictions, such as national or sector-specific data or server localization requirements?	1	There are no cross-border data transfer requirements in place in Brazil. As a result, there are no barriers to the transfer of data, but issues may arise in the trust and confidence of consumers in providing data to organizations in Brazil. However, in March 2017, the Government of Brazil issued Draft Guidelines for Public Procurement of Cloud Computing Services, which contain proposed server and data localization requirements. The Guidelines are the subject of public consultation. These requirements were expected to remain in the final Guidelines that were expected to be finalized by the second half of 2017.
10. Is there a personal data breach notification law or regulation?	Draft	There are no data breach notification requirements in place in Brazil. Data breach notification is being considered in the context of the Personal Data Protection Bills that are currently pending Congressional approval.
11. Are personal data breach notification requirements transparent, risk-based, and not overly prescriptive?	Not applicable	There are no data breach notification requirements in place in Brazil. It is too early to assess the proposed data breach notification requirements as the Personal Data Protection Bills are pending Congressional approval.
12. Is an independent private right of action available for breaches of data privacy?	✓	A limited right to challenge inaccurate data and to protest against violations of personal privacy is available under the Constitution and the Civil Code.
SECURITY (SCORE: 8/12.5 RANK: 14/24)		
1. Is there a national cybersecurity strategy in place?	✓	Brazil has published the Strategy of Information and Cyber-Security and Communication of the Brazil Federal Public Administration for 2015–2018 <dsic.planalto.gov.br/legislacao/4_Estrategia_de_SIC.pdf/view>.
2. Is the national cybersecurity strategy current, comprehensive, and inclusive?	1	The strategy was published in late 2015 and is up to date. It includes high-level strategic goals and a timetable, but many of the recommendations have yet to be implemented. The strategy includes a commitment to consulting with all stakeholders, and envisages the eventual allocation of an unspecified proportion of GDP to boosting cybersecurity in Brazil. However, many of the initiatives rely on the establishment of working groups, committees and reviews — and the results of these activities are uncertain.
3. Are there laws or appropriate guidance containing general security requirements for cloud service providers?	1	Limited security requirements are included in the Internet Civil Rights Law, Federal Law No. 12965/2014. These include the safeguarding of retained records and a requirement for service providers to meet the security and secrecy standards set forth by regulation.
4. Are laws or guidance on security requirements transparent, risk-based, and not overly prescriptive?	1	Security requirements are very light touch as of June 2017, although additional requirements may result from the proposed privacy law and the recommendations of the Strategy of Information and Cyber-Security and Communication of the Brazil Federal Public Administration for 2015–2018. In March 2017, the Government of Brazil issued Draft Guidelines for Public Procurement of Cloud Computing Services, which contain a number of concerning provisions including server and data localization requirements, which are considered “security measures” but actually do not advance this purpose. These requirements were expected to remain in the final Guidelines that were expected to be finalized by the second half of 2017.
5. Are there laws or appropriate guidance containing specific security audit requirements for cloud service providers that take account of international practice?	1	There are no general legal requirements in Brazil regarding security audits. This issue may be addressed in the future in proposed privacy legislation. For some government procurement opportunities, ICT services and products may be subject to security audit requirements. Government Decree 8,135, April 2013, and its implementing regulation (Ordinance number 141, Feb. 2014) establish audit rules for the procurement and use of ICT that do not follow international standards <www.governoeletronico.gov.br>. In addition, the Strategy of Information and Cyber-Security and Communication of the Brazil Federal Public Administration for 2015–2018 includes a section on the development of a monitoring and evaluation program, including audits. As of June 2017, this program has not yet been implemented.
6. Are international security standards, certification, and testing recognized as meeting local requirements?	1	Brazil has not yet developed widespread security certification or accreditation requirements for technology products. Brazil has a general commitment to international standards. However, in certain instances, international standards have not been adopted (e.g., Decree 8135/2013). Brazil is not a participant in the Common Criteria Recognition Agreement (CCRA) <www.commoncriteriaportal.org>.

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CYBERCRIME (SCORE: 11/12.5 RANK: 11/24)		
1. Are cybercrime laws or regulations in place?	✓	Brazil's Criminal Code (as amended in 2012) incorporates a wide range of cybercrime offenses. The cybercrime law provides comprehensive coverage of cybercrimes.
2. Are cybercrime laws or regulations consistent with the Budapest Convention on Cybercrime?	✓	Brazil has indicated that it is unlikely to sign the Budapest Convention on Cybercrime, but its cybercrime provisions closely mirror the key provisions of the Convention.
3. Do local laws and policies on law enforcement access to data avoid technology-specific mandates or other barriers to the supply of security products and services?	①	<p>Access to all communications data is severely restricted by the Constitution, Federal Law No. 9296/1996 and Federal Law No. 12965/2014. Access without a court order is generally not available.</p> <p>There are no law-enforcement-related laws or proposed laws in Brazil that would require specific technology mandates or other barriers to the supply of security products and services. However, the federal telecommunications regulator has specifically determined that service providers must make available the technological resources necessary to suspend telecommunications confidentiality — including decryption. This provision is likely to have an effect on some cloud service providers who have a crossover with the provision of telecommunications services.</p> <p>For example, there is a long running series of court cases related to law enforcement access to encrypted data held by WhatsApp (owned by Facebook). These cases are ongoing, with several cases resulting in orders for WhatsApp to disable encryption in relation to specific law enforcement investigations. Progress of the cases can be monitored at <bloqueios.info/en/timeline>.</p>
4. Are arrangements in place for the cross-border exchange of data for law enforcement purposes that are transparent and fair?	✓	Brazil has formal Mutual Legal Assistance Treaties (MLATs) in place with several countries, including key trading partners (such as Canada, Colombia, Peru, the United Kingdom, and the US). These agreements follow international practice for the exchange of data.
INTELLECTUAL PROPERTY RIGHTS (SCORE: 6/12.5 RANK: 16/24)		
1. Are copyright laws or regulations in place that are consistent with international standards to protect cloud service providers?	①	<p>Brazil's copyright laws are out of date, and attempts to reform Brazil's copyright legislation have been stalled since 2014.</p> <p>Brazil signed the TRIPS Agreement in 1995, but Brazil has not ratified the WIPO Copyright Treaty. It has implemented some very limited laws, which are partly compatible with the WIPO Copyright Treaty provisions, but overall, the laws fall short of international standards.</p> <p>Brazilian Law (through the Internet Civil Rights Law, Federal Law No. 12,965/2014) provides a clear "safe harbor" for intermediaries such as cloud service providers, who can only be held liable for damages arising from user-generated content when failing to comply with a takedown order issued by a court.</p>
2. Are copyright laws or regulations effectively enforced and implemented?	①	<p>Brazil's enforcement record in relation to intellectual property has been improving but there is still room for improvement.</p> <p>Brazilian enforcement authorities have demonstrated an increasing awareness of IP-related issues. While civil cases continue to encounter court backlogs, judges in several major jurisdictions are responding well to requests for trials.</p> <p>Although positive trends are present, there is room for improvement. Brazilian courts continue to require extremely high fees for forensic experts who conduct searches and seizures and analyze the results. Further, the requirement that companies headquartered abroad must pay bonds to guarantee eventual damages during the civil procedures has proven unreasonable at times.</p> <p>Brazil has implemented an effective intellectual property "safe harbor" process for cloud service providers.</p>
3. Is there clear legal protection against misappropriation of trade secrets?	✓	<p>The Brazilian Industrial Property Law (Federal Law No. 9,279/1996) establishes that disclosing, exploiting or using, "without authorization, confidential knowledge, information or data, which can be used in industry, in trade or in the providing of services ... to which access was had by means of a contractual or employment relationship, even after termination of the contract" is a criminal offense. The law also applies where the information is stolen or obtained by fraud.</p> <p>A civil remedy is also available under the Code of Civil Procedure (Article 207).</p>
4. Is the law or regulation on trade secrets effectively enforced?	①	<p>Brazilian law does not define "confidential knowledge" and this has presented difficulties in some enforcement actions. Also, penalties are set at a very low level in the legislation, and actions for an injunction are likely to face significant delays because of court backlogs and a lack of local expertise. Trade secret cases in Brazil are extremely rare.</p> <p>In addition, in some international discussions, Brazil has defined itself as a developing country and has promoted a new global framework that calls for open access to knowledge and technology for developing countries.</p>

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5. Is there clear legal protection against the circumvention of Technological Protection Measures?	✘	Brazil has not ratified the WIPO Copyright Treaty. It has implemented some very limited laws, which are partly compatible with the treaty provisions. The laws do not explicitly prohibit circumvention of technological protection measures and trafficking in circumvention devices and services.
6. Are laws or regulations on the circumvention of Technological Protection Measures effectively enforced?	✘	Brazil is one of the largest global markets for circumvention devices and there has been no enforcement action taken against the sale and distribution of these devices in Brazil.
7. Are there clear legal protections in place for software-implemented inventions?	✔	The Brazilian Patents and Trademarks Office (BRPTO) has published Resolution/BRPTO/PR No. 158, entitled Guidelines for Examination of Computer Program Implemented Inventions (Dec. 6, 2016), which clarifies that computer-related inventions are patentable if eligibility criteria is met < www.inpi.gov.br/menu-servicos/programa-de-computador >.
8. Are laws or regulations on the protection of software-implemented inventions effectively implemented?	🕒	The Brazilian Patent and Trademark Office has a large backlog of pending applications that prevents patents from being issued in a timely manner.
STANDARDS AND INTERNATIONAL HARMONIZATION (SCORE: 7.3/12.5 RANK: 22/24)		
1. Is there a regulatory body responsible for standards development for the country?	✔	The Associação Brasileira de Normas Técnicas (ABNT) < www.abnt.org.br >.
2. Are international standards favored over domestic standards?	🕒	Brazil is generally committed to international standards. Local standards in the ICT sector are rare. The Internet Civil Rights Law, Federal Law No. 12965/2014 includes a commitment to the "preservation of stability, security and functionality of the network, via technical measures consistent with international standards and by encouraging the use of best practices." However, Decree 8,135, of April 11, 2013, and its implementing regulation (Ordinance number 141, Feb. 2014) establish audit rules for the procurement and use of ICT that do not follow international standards < www.governoeletronico.gov.br >.
3. Does the government participate in international standards setting process?	✔	Brazil is a founding member of the International Standards Organization (ISO) and is an observer in the top-level ICT standards committee (JTC-1) < www.iso.org/isoiec-jtc-1.html >.
4. Are e-commerce laws or regulations in place?	✘	Brazil does not have specific e-commerce law in place. Brazilian general laws are interpreted by the courts as applying to the Internet and e-commerce. The Electronic Commerce Decree (Decree No. 7,962/13) extends some basic consumer protection provisions to electronic commerce, but it is restricted to Business to Consumer (B2C) contracts and transactions.
5. What international instruments are the e-commerce laws or regulations based on?	Not applicable	Brazil does not have specific e-commerce laws in place.
6. Is there a law or regulation that gives electronic signatures clear legal weight?	✔	Brazil's Electronic Signature Law 2001 (also known as Medida Provisória n. 2.200-2, 2001) establishes regulation for public key infrastructure based digital signatures. It also contains some provisions that are technology neutral. Digital signatures used in electronic documents have the same legal effect in communications between private parties or public agencies.
7. Are cloud service providers free from mandatory filtering or censoring?	✔	There is no formal censorship or filtering of online content in Brazil. The Internet Civil Rights Law, Federal Law No. 12,965/2014 forbids the blocking, monitoring, filtering, and analysis of data packets, with few exceptions. Furthermore, free speech is the subject of strong constitutional protections. However, numerous private legal cases have resulted in specific online material being removed.
PROMOTING FREE TRADE (SCORE: 4.8/12.5 RANK: 20/24)		
1. Is a national strategy or platform in place to promote the development of cloud services and products?	🕒	Brazil does not have a single national strategy in place in relation to cloud computing. However, it does have several minor support programs and initiatives for cloud-related Research and Development and pilot projects.
2. Are there any laws or policies in place that implement technology neutrality in government?	✘	Brazil does not have a general technology neutral policy framework in place. Some preference has previously been included in government procurement guidelines for open source solutions.

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3. Are cloud computing services able to operate free from laws or policies that either mandate or give preference to the use of certain products, services, standards, or technologies?	✓	There are no mandatory product requirements or product preferences in place in Brazil.
4. Are cloud computing services able to operate free from laws, procurement policies, or licensing rules that discriminate based on the nationality of the vendor, developer, or service provider?	✗	<p>The Buy Brazil Act (Law 12.349/10 of Dec. 15, 2010) allows the imposition of domestic preference requirements at the federal, state, and municipal levels as well as for public entities.</p> <p>Decree 7174 (2010), which regulates the procurement of information technology goods and services, requires agencies to give preferential treatment to locally produced computer products and goods or services with technology developed in Brazil.</p> <p>Decree 7903 (2013) establishes preference margins for ICT products. ICT products assembled in Brazil with imported component parts have a 15% preference margin, while ICT products manufactured in Brazil from local components have a 25% preference.</p> <p>These policies have a knock on effect on cloud computing services provided by foreign vendors.</p> <p>In addition, in March 2017, the Government of Brazil issued Draft Guidelines for Public Procurement of Cloud Computing Services, which contains a number of concerning provisions including procurement preferences. Specifically, these guidelines mandate that there is a margin of preference for the procurement of products and services with national technology. These requirements were expected to remain in the final Guidelines that were expected to be finalized by the second half of 2017.</p>
5. Has the country signed and implemented international agreements that ensure the procurement of cloud services is free from discrimination?	✗	Brazil is not a member or an observer of the World Trade Organization (WTO) plurilateral Agreement on Government Procurement < www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm >.
6. Are services delivered by cloud providers free from tariffs and other trade barriers?	✗	<p>Brazil imposes a range of tariffs of up to 25% on both software and IT services that are imported or delivered from abroad. The tariffs are calculated on IP royalties.</p> <p>In addition, Brazil applies a tax to the transfer of technology — the social economic interference contribution (CIDS) — that imposes an additional 10% surcharge on many technology remittances.</p>
7. Are cloud computing services able to operate free from laws or policies that impose data localization requirements?	✓	<p>There are no data localization requirements in place in Brazil. A proposal to introduce severe data localization requirements was withdrawn in 2014.</p> <p>However, in March 2017, Brazil issued Draft Guidelines for Public Procurement of Cloud Computing Services, which contain proposed server and data localization requirements. The Guidelines are the subject of public consultation.</p>
IT READINESS, BROADBAND DEPLOYMENT (SCORE: 11.5/25 RANK: 16/24)		
1. Is there a National Broadband Plan?	By 2019: • National average broadband speed of 25 Mbps	The Ministry for Telecommunications < www.mc.gov.br > is developing a new broadband plan, although its release has been postponed several times. The current target has been announced as 25 megabits per second (Mbps) average speed by 2019 < convergenciadigital.uol.com.br/cgi/cgilua.exe/sys/start.htm?infoid=40570&sid=102 >.
2. Is the National Broadband Plan being effectively implemented?	📍	Currently, Brazil has the highest broadband penetration in South America, followed by Argentina. Brazil has 48 million fixed and mobile broadband subscribers, ranking it among the top ten countries worldwide by total number of broadband users. However, its large population puts Brazil's broadband penetration outside the top 50 worldwide.
3. Are there laws or policies that regulate "net neutrality"?	Extensive regulation	Under Chapter III, Section 1 of the Internet Civil Rights Law, Federal Law No. 12.965/2014, degradation and discrimination of Internet traffic can only result from technical requirements essential to the adequate provision of services and application, and from the prioritization of emergency services. The section also prohibits service providers from blocking, monitoring, filtering, or analyzing data packets.
4. Base Indicators		
4.1. Population (millions) (2015) • Total for all countries in this scorecard: 4,700 million	204	<p>In 2015, the population of Brazil increased by 0.8%.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p>

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4.2. Urban Population (%) (2015) • Average for all countries in this scorecard: 73%	86%	In 2015, the urban population of Brazil increased by 0.3%. [World Bank, Data Catalog, Indicators, Urban Population (Jan. 2017) <data.worldbank.org/indicator/SP.URB.TOTL.IN.ZS>]
4.3. Number of Households (millions) (2015) • Total for all countries in this scorecard: 1,249 million	60	In 2015, the number of households in Brazil increased by 0.8%. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]
4.4. Population Density (people per square km) (2015) • Average for all countries in this scorecard: 471	25	In 2015, the population density of Brazil increased by 0.9%. [World Bank, Data Catalog, Indicators, Population Density (Jan. 2017) <data.worldbank.org/indicator/EN.POP.DNST>]
4.5. Per Capita GDP (US\$ 2015) • Average for all countries in this scorecard: US\$ 22,649	\$8,539	In 2015, the per capita GDP for Brazil decreased by -3.8% to US\$ 8,539. This was above the five-year compound annual growth rate (CAGR) from 2010–2015 of -5.1%. This ranks Brazil 18th for value of per capita GDP and 23rd for growth (CAGR) for this indicator in this scorecard. [World Bank, Data Catalog, Indicators: GDP Per Capita, Current US\$ (Jan. 2017) <data.worldbank.org/indicator/NY.GDP.PCAP.CD> and GDP Growth, Annual % (Jan. 2017) <data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>]
4.6. ICT Service Exports (billions of US\$) (2015) • Total for all countries in this scorecard: US\$ 978 billion	\$19	In 2015, the value of ICT service exports for Brazil decreased by 16.4% to US\$ 19.06 billion. This was below the five-year compound annual growth rate (CAGR) from 2010–2015 of 5.8%. This ranks Brazil 13th for value of ICT service exports and 23rd for growth (CAGR) for this indicator in this scorecard. [World Bank, Data Catalog, Indicators: ICT Service Exports US\$ (Jan. 2017) <data.worldbank.org/indicator/BX.GSR.CCIS.CD>]
4.7. Personal Computers (% of households) (2015) • Average for all countries in this scorecard: 63%	54%	In 2015, 53.5% of households in Brazil had personal computers. This is an increase of 6% since 2014 and ranks Brazil 83rd out of 236 countries surveyed. The growth from 2014 is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 8.9%. This ranks Brazil 17th for the number of personal computers (as a % of households) and 4th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]
5. IT and Network Readiness Indicators		
5.1. ITU ICT Development Index (IDI) (2016) (score is out of 10 and covers 175 countries) • Average for all countries in this scorecard: 6.58	5.99	Brazil's ITU ICT Development Index (IDI) for 2016 is 5.99 (out of 10), resulting in a rank of 63rd (out of 175 economies). The 2016 IDI for Brazil increased by 4.7%, and the IDI ranking improved by 2 from a rank of 65th since 2015. This ranks Brazil 16th in the ITU ICT Development Index and 10th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), Measuring the Information Society (Dec. 2016) <www.itu.int/net4/ITU-D/idi/2016>]
5.2. World Economic Forum Networked Readiness Index (NRI) (2016) (score is out of 7 and covers 139 countries) • Average for all countries in this scorecard: 4.77	4.01	Brazil has a Networked Readiness Index (NRI) score of 4.01 (out of 7), resulting in a rank of 72nd (out of 139 economies) and a rank of 18th (out of 34) in the Upper middle income grouping of economies. The 2016 NRI for Brazil increased by 4.2% and improved by 12 places from a rank of 84th since 2015. This ranks Brazil 19th in the ITU ICT Development Index and 4th for growth (CAGR) for this indicator in this scorecard. [World Economic Forum, Global Information Technology Report (2016) <reports.weforum.org/global-information-technology-report-2016>]
6. Internet Users and International Bandwidth		
6.1. Internet Users (millions) (2015) • Total for all countries in this scorecard: 2,330 million	120	[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]

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6.2. Internet Users (% of population) (2015) <ul style="list-style-type: none"> Average for all countries in this scorecard: 67% 	59%	<p>In 2015, 59% of the population in Brazil used the Internet, resulting in a ranking of 84th out of 236 countries surveyed by the ITU. This is an increase of 8.3% since 2014 and is above the five-year compound annual growth rate (CAGR) from 2010–2015 of 7.8%.</p> <p>This ranks Brazil 16th in the proportion of the population using the Internet and 10th for growth (CAGR) for this indicator in this scorecard.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p> <p>Note: There may be some variations as to how countries calculate this. Some countries base this upon all or part of the population — such as between 16 and 72 years of age.</p>
6.3. International Internet Bandwidth (total gigabits per second (Gbps) per country) (2015) <ul style="list-style-type: none"> Total for all countries in this scorecard: 117,736 Gbps 	5,250	<p>Brazil has increased its international Internet bandwidth by 9% since 2014 to 5,250 Gbps and is ranked 7 out of 236 countries surveyed by the ITU. The growth from 2014 is below the five-year compound annual growth rate (CAGR) from 2009–2014 of 39.3%.</p> <p>This ranks Brazil 6th for total international Internet bandwidth and 7th for growth (CAGR) for this indicator in this scorecard.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p>
6.4. International Internet Bandwidth (bits per second (bps) per Internet user) (2015) <ul style="list-style-type: none"> Average for all countries in this scorecard: 97,747 bps 	43,634	<p>The international Internet bandwidth (per Internet user) of Brazil has increased by 0.2% since 2014. The growth from 2014 is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 28.2%.</p> <p>This ranks Brazil 17th for international Internet bandwidth per user and 7th for growth (CAGR) for this indicator in this scorecard.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p>
7. Fixed Broadband		
7.1. Fixed Broadband Subscriptions (millions) (2015) <ul style="list-style-type: none"> Total for all countries in this scorecard: 697 million 	25	<p>Brazil has increased the number of fixed broadband subscribers by 6% since 2014 to 24.94 million, and is ranked 7th out of 236 countries surveyed by the ITU. The growth from 2014 is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 12.1%.</p> <p>This ranks Brazil 7th for the number of fixed broadband subscriptions and 5th for growth (CAGR) for this indicator in this scorecard.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p>
7.2. Fixed Broadband Subscriptions (% of households) (2015) <ul style="list-style-type: none"> Average for all countries in this scorecard: 63% 	42%	<p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p> <p>Note: This may be skewed by business usage in some countries.</p>
7.3. Fixed Broadband Subscriptions (% of population) (2015) <ul style="list-style-type: none"> Average for all countries in this scorecard: 21% 	12%	<p>Brazil has increased its fixed broadband subscriptions (as a % of the population) by 4.9% since 2014, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 11.1%. This ranks Brazil 91st out of 236 countries surveyed by the ITU.</p> <p>This ranks Brazil 17th for the number of fixed broadband subscriptions (as a % of the population) and 6th for growth (CAGR) for this indicator in this scorecard.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p>
7.4. Fixed Broadband Subscriptions (% of Internet users) (2015) <ul style="list-style-type: none"> Average for all countries in this scorecard: 29% 	21%	<p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p>

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7.5. Average Broadband Data Connection Speed (total megabits per second (Mbps) per country) (Q1 2017) <ul style="list-style-type: none"> Average for all countries in this scorecard: 12 Mbps Average peak for all countries in this scorecard: 70 Mbps 	7	In Brazil the Q1 2017 average broadband data connection speed was 6.82 Mbps and is ranked 94th out of 239 countries measured by Akamai. This ranks Brazil 21st for average broadband data connection speed in this scorecard. Additional connection metrics for Q1 2017 in Brazil include: <ul style="list-style-type: none"> Average peak broadband connection speed: 46.45 Mbps (ranked 101st globally and 19th in this scorecard) Above 4 Mbps: 63% (ranked 106th globally and 21st in this scorecard) Above 10 Mbps: 18% (ranked 90th globally and 21st in this scorecard) Above 15 Mbps: 6% (ranked 94th globally and 20th in this scorecard) Above 25 Mbps: 1% (ranked 92nd globally and 21st in this scorecard) [Akamai, The State of the Internet (1st Quarter, 2017) < www.akamai.com/us/en/about/our-thinking/state-of-the-internet-report/ >]
8. Fiber-to-the-home/building (FtTX)		
8.1. Fiber-to-the-home/building (FtTX) Internet Subscriptions (millions) (2015) <ul style="list-style-type: none"> Total for all countries in this scorecard: 258 million 	1.3	Brazil has increased the number of FtTX subscribers by 36% since 2014 to 1.265 million, and is ranked 17th out of 236 countries surveyed by the ITU. This ranks Brazil 11th for the number of FtTX subscriptions and 9th for growth (from 2014) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
8.2. Proportion of Fiber-to-the-home/building (FtTX) Internet Subscriptions (% of households) (2015) <ul style="list-style-type: none"> Average for all countries in this scorecard: 18% 	2.1%	Brazil has increased the proportion of FtTX subscribers to households by 36% (since 2014) to 2.12%. This ranks Brazil 17th for the proportion of FtTX subscriptions to households and 9th for growth (from 2014) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >] Note: This may be skewed by business usage in some countries.
8.3. Proportion of Fiber-to-the-home/building (FtTX) Internet Subscriptions (% of fixed broadband subscriptions) (2015) <ul style="list-style-type: none"> Average for all countries in this scorecard: 23% 	5.1%	Brazil has increased the proportion of FtTX subscribers to fixed broadband subscribers by 36% (since 2014) to 5.07%. This ranks Brazil 17th for the proportion of FtTX subscriptions to fixed broadband subscriptions and 9th for growth (from 2014) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]
9. Mobile Broadband		
9.1. Mobile Cellular Subscriptions (millions) (2015) <ul style="list-style-type: none"> Total for all countries in this scorecard: 4,823 million 	258	In 2015, Brazil decreased the number of mobile cellular subscriptions by -8.2% since 2014, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 5.5%. Brazil is ranked 5th out of 236 countries surveyed by the ITU. The number of subscriptions account for 127% of the population. This ranks Brazil 5th for the number of mobile cellular subscriptions and 8th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >] Note: This figure may be inflated due to multiple subscriptions per head of population, but excludes dedicated mobile broadband devices (such as 3G data cards, tablets, etc.).
9.2. Number of Active Mobile Broadband Subscriptions (millions) (2015) <ul style="list-style-type: none"> Total for all countries in this scorecard: 2,506 million 	180	In 2015, Brazil has increased the number of active mobile broadband subscriptions by 14%, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 54.3%. Brazil is ranked 3rd out of 236 countries surveyed by the ITU. This ranks Brazil 3rd for the number of active mobile broadband subscriptions and 7th for growth (CAGR) for this indicator in this scorecard. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) < www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx >]

# BRAZIL	RESPONSE	EXPLANATORY TEXT
<p>9.3. Active Mobile Broadband Subscriptions (% of population) (2015)</p> <ul style="list-style-type: none"> • Average for all countries in this scorecard: 77% 	89%	<p>Brazil has increased the number of active mobile broadband subscriptions (as a % of the population) by 13% since 2014, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 53%. Brazil is ranked 28th out of 236 countries surveyed by the ITU.</p> <p>This ranks Brazil 7th for the number of active mobile broadband subscriptions (as a % of the population) and 7th for growth (CAGR) for this indicator in this scorecard.</p> <p>[International Telecommunication Union (ITU), World Telecommunication/ ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]</p> <p>Note: This refers to the sum of standard mobile broadband and dedicated mobile broadband subscriptions to the public Internet. It covers actual subscribers, not potential subscribers, even though the latter may have broadband enabled-handsets.</p>
<p>9.4. Average Mobile Data Connection Speed (total megabits per second (Mbps) per country) (Q1 2017)</p> <ul style="list-style-type: none"> • Average for all countries in this scorecard: 11 Mbps 	5	<p>In Brazil the Q1 2017 average mobile data connection speed was 5.2 Mbps and is ranked 61st out of 70 countries measured by Akamai.</p> <p>This ranks Brazil 21st for average mobile data connection speed in this scorecard.</p> <p>[Akamai, The State of the Internet (1st Quarter, 2017) <www.akamai.com/us/en/about/our-thinking/state-of-the-internet-report/>]</p>