COUNTRY: **JAPAN**

SCORE: 82.09 | RANK: 2/24

Japan has a comprehensive suite of modern laws that support and facilitate the digital economy and cloud computing.

Japan has comprehensive privacy legislation, with a new central regulator in place and strong enforcement provision.

Japan ratified the Convention on Cybercrime in 2012, setting a positive example for other countries.

Japan's intellectual property laws cover the full range of protections relevant to cloud computing, but improvements can be made in areas of protection against circumvention of technological protection measures.

Japan is very active in the development of international standards.

Japan is characterized by having one of the most extensive broadband fiber deployments in the world, with the largest number of fiber users in the world. Japan has an actively managed competitive access regime and has had at least six significant information technology (IT) strategies and plans over the past decade. Typically, the targets are met, and there is progression to the next strategy. This puts Japan in a unique position, with one of the most complete broadband infrastructures in the world. The high scores in this section of the scorecard positively impact Japan's overall ranking position.

Japan's ranking decreases slightly — from first to second — mostly because of improvements by Germany.

# JAPAN	RESPONSE	EXPLANATORY TEXT
DATA PRIVACY (SCORE: 9.8/12.5 | RANK: 8/24)		
1. Is a data protection law or regulation in place?	✔	The Act for Protection of Personal Information (APPI) 2003 has applied to the private sector since 2005. The Act was substantially amended and strengthened in 2015 and these changes came into force on May 30, 2017. In addition to the APPI, the public sector must comply with the Law on the Protection of Personal Information Held by Administrative Organs.
2. What is the scope and coverage of the data protection law or regulation?	Comprehensive	The law covers both the public and private sectors.
3. Is a data protection authority in place?	✔	The Personal Information Protection Commission (PPC) <www.ppc.go.jp> is the national regulator. The PPC was established in January 2016 and full operation commenced in May 2017.
4. What is the nature of the data protection authority?	Collegial body	The Personal Information Protection Commission (PPC) <www.ppc.go.jp> is composed of one chairperson and eight PPC members, appointed by the Prime Minister with the consent of the parliament for five years.
5. Is the data protection authority enforcing the data protection law or regulation in an effective and transparent manner?	◑	The Personal Information Protection Commission (PPC) <www.ppc.go.jp> has significant powers, including audit and inspection powers, and the power to request companies to submit compliance reports. Criminal sanctions are also available. The PPC does not, however, have the ability to impose fines. The regulator began operations in May 2017 and it is too early to assess its approach to enforcement.

# JAPAN	RESPONSE	EXPLANATORY TEXT
6. Is the data protection law or regulation compatible with globally recognized frameworks that facilitate international data transfers?	APEC framework & EU framework	Although Japanese law contains some unique provisions, the core principles are based on a mix of the Organisation for Economic Co-operation and Development (OECD) Privacy Guidelines and the EU Data Protection Directive. In July 2017 The European Commission announced that it expected to grant Japan "adequacy" status under the EU Directive by early 2018. <europa.eu/rapid/press-release_STATEMENT-17-1880_en.htm>. If granted, this would allow personal data to be transferred to Japan without further conditions. Japan is a member of the Asia Pacific Economic Cooperation (APEC), and the Japanese privacy law complies with the APEC Privacy Framework. The 2015 amendments to the law will be supported by implementation guidelines developed by the Personal Information Protection Commission (PPC) <www.ppc.go.jp>. The implementation guidelines include a proposed provision recognizing the APEC Cross-Border Privacy Rules scheme (APEC CBPRs) <www.cbprs.org> as a mechanism for cross-border transfers. Once in force, this provision would allow cross-border transfers without further conditions when either the transferring or receiving company is a certified APEC CBPRs participant.
7. Are data controllers free from registration requirements?	✔	There are no general requirements for registration in Japanese privacy law. However, some companies that specialize in information brokering and selling lists of names and contact details may wish to take advantage of special "opt-out" provisions, by notifying the Personal Information Protection Commission (PPC) <www.ppc.go.jp>. This acts as a de facto registration requirement for a small number of companies.
8. Are there cross-border data transfer requirements in place?	Detailed requirements	Cross-border data transfers generally require prior consent of individuals, including a requirement to provide proper information about the location (e.g., specify the receiving country and/or region). However, a range of broad exceptions apply, including an exception for organizations that have a data protection system that is equivalent to the protections in Japanese law or countries that are designated by the PPC as providing an adequate level of protection. Companies certified as compliant with the APEC Cross-border Privacy Rules (CBPRs) <www.cbprs.org> are considered as having adequate protections and therefore meeting the exception.
9. Are cross-border data transfers free from arbitrary, unjustifiable, or disproportionate restrictions, such as national or sector-specific data or server localization requirements?	✔	Japan's cross-border data transfer rules only came into effect in May 2017, and it is difficult assess their practical effect. As of June 2017, the PPC has released further guidance on the requirements for cross-border data transfers, although country designation remains outstanding. There are no registration requirements for overseas transfer of data and no general data localization requirements in Japanese laws.
10. Is there a personal data breach notification law or regulation?	◑	Japanese privacy law does not include a general data breach notification requirement. However, PPC Guidelines and several sectoral guidelines do impose data breach notification requirements on organizations subject to those regulators, including cloud service providers.
11. Are personal data breach notification requirements transparent, risk-based, and not overly prescriptive?	◑	The rules on data breach notification requirements in Japan are inconsistent and vague. For example, the PPC Guidelines encourage, rather than mandate, notification to individuals.
12. Is an independent private right of action available for breaches of data privacy?	✔	Article 13 of the Constitution of Japan (1946) states: "All of the people shall be respected as individuals. The right to life, liberty, and the pursuit of happiness shall, to the extent that it does not interfere with the public welfare, be the supreme consideration in legislation and in other governmental affairs." An individual can initiate an action against a breach of data privacy based upon torts theory. These constitutional provisions have been used in private actions against the government (but not against the private sector).

SECURITY (SCORE: 10.5/12.5 | RANK: 5/24)

# JAPAN	RESPONSE	EXPLANATORY TEXT
1. Is there a national cybersecurity strategy in place?	✔	Japan's Cyber Security Strategy was published in September 2015. <www.nisc.go.jp/eng/pdf/cs-strategy-en.pdf > The National Center of Incident Readiness and Strategy for Cybersecurity (NISC) <www.nisc.go.jp> is empowered to develop national strategy and policy, ensuring the cybersecurity of ministries and agencies, and serving as a focal point for international cooperation.

# JAPAN	RESPONSE	EXPLANATORY TEXT
2. Is the national cybersecurity strategy current, comprehensive, and inclusive?	✔	The strategy is a comprehensive document that considers both the benefits and risks of cyber technology and includes an implementation and review component. The legal framework supporting cybersecurity is one of the strongest in the region, following the passage of the Basic Law on Cybersecurity (Act No. 104 of 2014) <www.japaneselawtranslation.go.jp/law/detail/?id=2760&vm=02&re=01>.
3. Are there laws or appropriate guidance containing general security requirements for cloud service providers?	◑	Article 20 of the Personal Information Protection Act (Security Control Measures) provides that "an entity handling personal information must take necessary and proper measures for the prevention of leakage, loss, or damage, and for other control of security of the personal data." Additional best practice guidance is provided by some regulators and industry associations, but Article 20 is the only binding legal requirement, if applicable

For example, Article 7 of the Basic Law on Cybersecurity 2014 states that Cyberspace-Related Business Entities and other business entities are required to make an effort to ensure Cybersecurity voluntarily and proactively in their businesses and to cooperate with the measures on Cybersecurity taken by the national government or local governments.

"Cyberspace-Related Business Entities" are defined as those organizations engaged in business regarding the maintenance of the Internet and other advanced information and telecommunications networks, the utilization of information and telecommunications technologies, or involved in business related to Cybersecurity." |
| 4. Are laws or guidance on security requirements transparent, risk-based, and not overly prescriptive? | ✔ | Japan's approach to cloud security issues has a strong focus on international standards and promotes the ISO/IEC 27017 Code of practice for information security controls based on ISO/IEC 27002 for cloud services (issued in 2015). Indeed, the ISO standard was based on the Japanese national standard for cloud security. The requirements are transparent and follow international best practice. |
| 5. Are there laws or appropriate guidance containing specific security audit requirements for cloud service providers that take account of international practice? | ◑ | Security audits are considered in the Personal Information Protection Act as one measure that can be used to comply with the privacy and outsourcing provisions contained in the legislation. These requirements can be applied to cloud computing, but they are not mandatory. |
| 6. Are international security standards, certification, and testing recognized as meeting local requirements? | ✔ | Japan is a Certificate Authorizing Member (the highest level) of the Common Criteria Recognition Agreement (CCRA) <www.commoncriteriaportal.org>. The Japan Information Technology Security Evaluation and Certification Scheme <www.ipa.go.jp/security/jisec/jisec_e> manages the provision of certifications. Some very specific certifications are required under the 2005 Standards for Information Security Measures for Central Government Computer Systems, but these only apply to "important e-government information systems and software developments."

Also, there is growing use of the Cloud Security (CS) Mark Gold Level certification as a requirement in government procurement. This a Japanese-specific certification managed by the Japan Information Security Audit Association (JASA) <jcispa.jasa.jp/cloud_security>. |
**CYBERCRIME (SCORE: 12/12.5	RANK: 1/24)**		
1. Are cybercrime laws or regulations in place?	✔	Cybercrimes are covered by a combination of provisions in the Act Concerning the Prohibition of Unauthorized (Computer) Access (Unauthorized Access Act) and the Criminal Code.
2. Are cybercrime laws or regulations consistent with the Budapest Convention on Cybercrime?	✔	Japan signed the Council of Europe Convention on Cybercrime in 2001. In July 2011, Japan amended the Criminal Code to include provisions that comply with the Convention. Japan ratified the Convention in July 2012.
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?	✔	There is no specific law to address the access by law enforcement agencies to encrypted data. If an investigation is necessary law enforcement agencies may ask service providers/makers to cooperate to decrypt data.

There have been no proposals in Japan for mandating specific security technology or requiring backdoor access to security products. |
| 4. Are arrangements in place for the cross-border exchange of data for law enforcement purposes that are transparent and fair? | ✔ | Japan has a small number of Mutual Legal Assistance Treaties (MLATs) in place (China, Korea, Hong Kong SAR, EU, Russia, and the United States). Japan also uses the mutual cooperation mechanisms set out in the Council of Europe Convention on Cybercrime. |

# JAPAN	RESPONSE	EXPLANATORY TEXT
INTELLECTUAL PROPERTY RIGHTS (SCORE: 9/12.5 | RANK: 11/24)		
1. Are copyright laws or regulations in place that are consistent with international standards to protect cloud service providers?	✔	Japan has implemented international standards in its intellectual property laws. Japan does not have traditional copyright "safe harbor" protection in place for intermediaries such as cloud service providers. Instead, the Act on the Limitation of Liability for Damages of Specified Telecommunications Service Providers 2001 applies to a broad range of laws (copyright, defamation, privacy). The law includes a very tight definition of intermediary, and this may restrict its application to some cloud service providers.
2. Are copyright laws or regulations effectively enforced and implemented?	✔	Japan has a long and active history of copyright enforcement, including the establishment of the Intellectual Property High Court (established in 2005) as a Special branch of the Tokyo High Court. Japan's law on intermediary liability acts as a de facto "safe harbor" for cloud service providers.
3. Is there clear legal protection against misappropriation of trade secrets?	◑	In Japan, trade secrets are partially protected by the Unfair Competition Prevention Act (UCPA). Article 2(6) protects trade secrets that meet a three-part test: (1) Technical or business information useful for commercial activities; (2) That is kept secret; and (3) That is not publicly known.
4. Is the law or regulation on trade secrets effectively enforced?	◑	Japan amended the Unfair Competition Prevention Act (effective from January 2016) to broaden the scope of protection available to claimants. This included new liability for attempted misappropriation of trade secrets and distribution of goods made via the use of stolen trade secrets. The Act has also been expanded to cover misappropriation of trade secrets outside Japan. Enforcement activities for trade secrets appear to be increasing.
5. Is there clear legal protection against the circumvention of Technological Protection Measures?	◑	Protection against circumvention devices remains limited in Japan.
6. Are laws or regulations on the circumvention of Technological Protection Measures effectively enforced?	◑	Japan has prosecuted some criminal cases for the circumvention of technological protection measures, but enforcement authorities have not been very active in pursuing cases against those providing programs designed to circumvent software license authentication systems (so-called "crack tools").
7. Are there clear legal protections in place for software-implemented inventions?	◑	Japanese law on software-implemented inventions is complex, but the overall test for whether a software enabled invention is eligible for patent protection is where "information processing by software is concretely realized by using hardware resources" (Article 2, Paragraph (1) of the Patent Act).
8. Are laws or regulations on the protection of software-implemented inventions effectively implemented?	◑	The Japan Patent Office has issued Examination Guidelines that state a claim for a software-related invention must demonstrate that software and hardware resources work "cooperatively" <www.jpo.go.jp/rireki_e/whate.htm>. In practice, it is possible to obtain patents for software-implemented inventions.
STANDARDS AND INTERNATIONAL HARMONIZATION (SCORE: 10.5/12.5 | RANK: 12/24)		
1. Is there a regulatory body responsible for standards development for the country?	✔	The Japanese Standards Association (JSA) <www.jsa.or.jp> states that its objective is "to educate the public regarding the standardization and unification of industrial standards, and thereby to contribute to the improvement of technology and the enhancement of production efficiency." JSA has a combined management and promotional role in the standards process. However, standards themselves are developed and regulated by the Japanese Industrial Standards Committee (JISC) <www.jisc.go.jp>.
2. Are international standards favored over domestic standards?	✔	Japan prioritizes compliance with international standards.
3. Does the government participate in international standards setting process?	✔	Japan participates in relevant International Standards Organization (ISO) and International Electrotechnical Commission (IEC) standard-setting processes and is a full member of the ISO. Japan is a participant 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?	◑	There is no general law on e-commerce. The Act on Special Provisions to the Civil Code Concerning Electronic Consumer Contracts and Electronic Acceptance Notice, the Law Concerning Electronic Signatures and Certification Services 2000, and the Act on Specified Commercial Transactions provide further guidance.
5. What international instruments are the e-commerce laws or regulations based on?	Not applicable	There is no general law on e-commerce.

# JAPAN	RESPONSE	EXPLANATORY TEXT
6. Is there a law or regulation that gives electronic signatures clear legal weight?	✔	The Electronic Signature Law states that an electro-magnetic record shall be presumed to be authentic if an Electronic Signature is executed by the signatory. An "electronic signature" is defined as a means, with respect to the information which is able to be recorded in an electro-magnetic record (which is itself defined as any record produced by electronic, magnetic, or any other means unrecognizable by natural perceptive function, and used for computer data-processing), to certify that such information is produced by the person using that means, and by which it is possible to confirm whether such information is changed or not.
7. Are cloud service providers free from mandatory filtering or censoring?	✔	Japan has a self-regulatory system of content regulation in place for online services in accordance with the Act on Development of an Environment that Provides Safe and Secure Internet Use for Young People 2008. Article 17 of the Act requires mobile network providers to require the use of filtering technologies to prevent access by children to harmful content, unless the guardian opts out.
PROMOTING FREE TRADE (SCORE: 10/12.5 | RANK: 4/24)		
1. Is a national strategy or platform in place to promote the development of cloud services and products?	◑	The Basic Act on the Advancement of Utilizing Public and Private Sector Data 2016 promotes cloud computing service related technology to advance data utilization. The basic plan to implement the act has not yet been released.
2. Are there any laws or policies in place that implement technology neutrality in government?	◑	Japan has no policies that promote particular technologies and they generally support and promote innovation. However, there are no specific policies in place that explicitly implement or establish a policy of technology neutrality. Japan's most recent policy in this area is the Declaration on the Creation of the World's Most Advanced IT Nation 2016, <www.kantei.go.jp/jp/singi/it2/kettei/pdf/20160520/siryou1.pdf>. This policy replaces prior versions of the policy, and there have been no specific commitments to technology neutrality in these policies since 2013.
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 requirements or preferences in place for specific technology in laws or policies in Japan.
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?	✔	No preferences are granted to domestic suppliers that are relevant to cloud services and products.
5. Has the country signed and implemented international agreements that ensure the procurement of cloud services is free from discrimination?	◑	Japan is a full member 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?	✔	The Japanese government does not impose tariffs or other trade barriers relevant to cloud computing.
7. Are cloud computing services able to operate free from laws or policies that impose data localization requirements?	✔	There are no legally binding data localization requirements in Japan, but some guidelines (for example the MIC guidelines for the medical industry) require private information processing operators to store data within the area where Japanese laws are in force, and that would affect cloud computing services.
IT READINESS, BROADBAND DEPLOYMENT (SCORE: 20.3/25 | RANK: 2/24)		
1. Is there a National Broadband Plan?	Japan's successive broadband plans have delivered comprehensive fiber (FttH) deployment. The Smart Japan ICT Strategy and Japan Revitalization Strategy now focus on developing knowledge economy.	Japan is characterized by having one of the most extensive broadband fiber (FttH) deployments in the world, with the largest number of FttH users in the world. Japan has an actively managed competitive access regime and has had at least six significant ICT strategies and plans over the last decade. Typically, the targets are met and there is progression to the next strategy. This puts Japan in a unique position, with one of the most complete broadband infrastructures in the world. Subsequent ICT strategies are focusing on increasing the uptake of FttH among the Japanese population. It is regarded as low with 30% of households utilizing FttH, while 90% of households have access. The Japan Revitalization Strategy 2016 in part focuses on developing Internet of Things (IoT), big data, and artificial intelligence sectors.

# JAPAN	RESPONSE	EXPLANATORY TEXT
2. Is the National Broadband Plan being effectively implemented?	✔	Implementation is completed in the sense that Japan has achieved ubiquitous broadband. Japan has one of the most advanced and largest broadband markets in the world. Japan has focused investment on FttH and on cable to a lesser extent. The faster speeds afforded by these technology platforms has seen both increase in popularity at the expense of DSL, with FttH representing almost two-thirds of total fixed broadband subscriptions. Japan has also been an early adopter of triple-play models which provide TV, broadband Internet, and voice telephony as packaged services from a single provider. <www.budde.com.au/Research/Japan-Telecoms-Mobile-Broadband-and-Digital-Media-Statistics-and-Analyses>
3. Are there laws or policies that regulate "net neutrality"?	Limited regulation	Japan has had a hybrid approach to promoting and regulating net neutrality, which includes a statement of acceptable practices from the relevant minister and pro-competitive regulation. The Ministry of Internal Affairs and Communications released a net neutrality report in 2007. The report discusses the fair allocation of network development costs and fair access to the network by telecommunications operators, including content providers. A guideline for "packet shaping" was issued in May 2008, which allows packet shaping in exceptional circumstances.
4. Base Indicators		
4.1. Population (millions) (2015) • Total for all countries in this scorecard: 4,700 million	127	In 2015, the population of Japan decreased by -0.1%. [International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]
4.2. Urban Population (%) (2015) • Average for all countries in this scorecard: 73%	93%	In 2015, the urban population of Japan increased by 0.5%. [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	47	In 2015, the number of households in Japan decreased by -0.1%. [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	348	In 2015, the population density of Japan decreased by 0.1%. [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	$32,477	In 2015, the per capita GDP for Japan increased by 0.5% to US$ 32,477. This was above the five-year compound annual growth rate (CAGR) from 2010–2015 of -5.4%. This ranks Japan 8th for value of per capita GDP and 24th 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	$37	In 2015, the value of ICT service exports for Japan decreased by 8.8% to US$ 37.12 billion. This was below the five-year compound annual growth rate (CAGR) from 2010–2015 of 2.1%. This ranks Japan 8th for value of ICT service exports and 24th 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%	80%	In 2015, 79.7% of households in Japan had personal computers. This is an increase of 0.4% since 2014 and ranks Japan 35th out of 236 countries surveyed. The growth from 2014 is above the five-year compound annual growth rate (CAGR) from 2010 to 2015 of -0.9%. This ranks Japan 8th for the number of personal computers (as a % of households) and 23rd 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>]

# JAPAN	RESPONSE	EXPLANATORY TEXT
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	8.37	Japan's ITU ICT Development Index (IDI) for 2016 is 8.37 (out of 10), resulting in a rank of 10th (out of 175 economies). The 2016 IDI for Japan increased by 1.1%, and the IDI ranking improved by 1 from a rank of 11th since 2015. This ranks Japan 3rd in the ITU ICT Development Index and 22nd 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	5.65	Japan has a Networked Readiness Index (NRI) score of 5.65 (out of 7), resulting in a rank of 10th (out of 139 economies) and a rank of 9th (out of 32) in the High income: OECD grouping of economies. The 2016 NRI for Japan increased by 0.8% and the ranking has remained the same since 2015. This ranks Japan 4th in the ITU ICT Development Index and 21st 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	115	[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]
6.2. Internet Users (% of population) (2015) • Average for all countries in this scorecard: 67%	91%	In 2015, 91% of the population in Japan used the Internet, resulting in a ranking of 17th out of 236 countries surveyed by the ITU. This is an increase of 2.2% since 2014 and is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 3.1%. This ranks Japan 2nd in the proportion of the population using the Internet and 15th 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: 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.
6.3. International Internet Bandwidth (total gigabits per second (Gbps) per country) (2015) • Total for all countries in this scorecard: 117,736 Gbps	7,411	Japan has increased its international Internet bandwidth by 33% since 2014 to 7,411 Gbps and is ranked 5 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 36.5%. This ranks Japan 4th for total international Internet bandwidth 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>]
6.4. International Internet Bandwidth (bits per second (bps) per Internet user) (2015) • Average for all countries in this scorecard: 97,747 bps	64,180	The international Internet bandwidth (per Internet user) of Japan has increased by 31% since 2014. The growth from 2014 is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 32.5%. This ranks Japan 13th for international Internet bandwidth per user and 5th 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>]
7. Fixed Broadband		
7.1. Fixed Broadband Subscriptions (millions) (2015) • Total for all countries in this scorecard: 697 million	39	Japan has increased the number of fixed broadband subscribers by 3% since 2014 to 38.88 million, and is ranked 3rd out of 236 countries surveyed by the ITU. The growth from 2014 is close to the five-year compound annual growth rate (CAGR) from 2010–2015 of 2.7%. This ranks Japan 3rd for the number of fixed broadband subscriptions and 22nd 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>]

# JAPAN	RESPONSE	EXPLANATORY TEXT
7.2. Fixed Broadband Subscriptions (% of households) (2015) • Average for all countries in this scorecard: 63%	83%	[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.
7.3. Fixed Broadband Subscriptions (% of population) (2015) • Average for all countries in this scorecard: 21%	31%	Japan has increased its fixed broadband subscriptions (as a % of the population) by 3% since 2014, which is above the five-year compound annual growth rate (CAGR) from 2010–2015 of 2.7%. This ranks Japan 33rd out of 236 countries surveyed by the ITU. This ranks Japan 7th for the number of fixed broadband subscriptions (as a % of the population) and 21st 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>] The OECD figures below present a breakdown of the type of fixed broadband connections in Japan as of June 2016. In the OECD, Japan was ranked 19th (out of 35) for fixed broadband subscribers as a percentage of population [OECD Broadband Subscribers (Feb. 2017) <www.oecd.org/sti/broadband>] • DSL: 2.4% • Cable: 5.4% • Fiber/LAN: 22.4% • Satellite: 0.0% • Fixed wireless: 0.0% Total: 30.2% (38.2 million subscriptions). The OECD average total for June 2016 was 29.8%. This reflects an increase in fiber connections and consequential decrease in DSL, cable, and fixed wireless. The fixed broadband growth for the June 2015–2016 period was 3.12% (ranked 18 out of 35 for growth), just below the OECD average growth of 3.42%. In Japan, fiber makes up 74.1% of fixed broadband subscriptions (ranked 1 out of 35), well above the OECD average of 20.1%. Japan and Korea dominate the share of fiber connections in the OECD, with each having almost twice the level of penetration of any other country in the OECD. The growth in fiber subscriptions for the June 2015–2016 period was 4.82% (ranking Japan 34 out of 35 for growth) well below the OECD average of 15.94%. Note: From July 2015 OECD adjusted its definitions of fixed and mobile broadband by transferring the categories Satellite and Fixed Wireless from Mobile to Fixed Broadband. Note: Fiber subscriptions data includes FttH, FttP, and FttB, and excludes FTTC. Note: There may be minor variations in the ITU and OECD subscriber totals due to definition or timing differences.
7.4. Fixed Broadband Subscriptions (% of Internet users) (2015) • Average for all countries in this scorecard: 29%	34%	[International Telecommunication Union (ITU), World Telecommunication/ICT Indicators Database (Dec. 2016) <www.itu.int/en/ITU-D/Statistics/Pages/publications/wtid.aspx>]
7.5. Average Broadband Data Connection Speed (total megabits per second (Mbps) per country) (Q1 2017) • Average for all countries in this scorecard: 12 Mbps • Average peak for all countries in this scorecard: 70 Mbps	20	In Japan the Q1 2017 average broadband data connection speed was 20.17 Mbps and is ranked 8th out of 239 countries measured by Akamai. This ranks Japan 3rd for average broadband data connection speed in this scorecard. Additional connection metrics for Q1 2017 in Japan include: • Average peak broadband connection speed: 94.53 Mbps (ranked 15th globally and 4th in this scorecard) • Above 4 Mbps: 93% (ranked 32nd globally and 4th in this scorecard) • Above 10 Mbps: 73% (ranked 4th globally and 2nd in this scorecard) • Above 15 Mbps: 52% (ranked 6th globally and 2nd in this scorecard) • Above 25 Mbps: 25% (ranked 8th globally and 3rd 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/>]

# JAPAN	RESPONSE	EXPLANATORY TEXT
8. Fiber-to-the-home/building (FttX)		
8.1. Fiber-to-the-home/building (FttX) Internet Subscriptions (millions) (2015) • Total for all countries in this scorecard: 258 million	27.9	Japan has increased the number of FttX subscribers by 5% since 2014 to 27.873 million, and is ranked 2nd out of 236 countries surveyed by the ITU. This ranks Japan 2nd for the number of FttX subscriptions and 19th 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) • Average for all countries in this scorecard: 18%	59.2%	Japan has increased the proportion of FttX subscribers to households by 5% (since 2014) to 59.21%. This ranks Japan 3rd for the proportion of FttX subscriptions to households and 19th 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) • Average for all countries in this scorecard: 23%	71.7%	Japan has increased the proportion of FttX subscribers to fixed broadband subscribers by 5% (since 2014) to 71.69%. This ranks Japan 1st for the proportion of FttX subscriptions to fixed broadband subscriptions and 19th 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) • Total for all countries in this scorecard: 4,823 million	160	In 2015, Japan increased the number of mobile cellular subscriptions by 3.4% since 2014, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 5.4%. Japan is ranked 7th out of 236 countries surveyed by the ITU. The number of subscriptions account for 127% of the population. This ranks Japan 7th for the number of mobile cellular subscriptions and 10th 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) • Total for all countries in this scorecard: 2,506 million	162	In 2015, Japan has increased the number of active mobile broadband subscriptions by 4%, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 7.8%. Japan is ranked 4th out of 236 countries surveyed by the ITU. This ranks Japan 4th for the number of active mobile broadband subscriptions and 22nd 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>]

# JAPAN	RESPONSE	EXPLANATORY TEXT
9.3. Active Mobile Broadband Subscriptions (% of population) (2015) • Average for all countries in this scorecard: 77%	128%	Japan has increased the number of active mobile broadband subscriptions (as a % of the population) by 4% since 2014, which is below the five-year compound annual growth rate (CAGR) from 2010–2015 of 7.9%. Japan is ranked 7th out of 236 countries surveyed by the ITU. This ranks Japan 2nd for the number of active mobile broadband subscriptions (as a % of the population) and 21st 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 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. The OECD figures below present a breakdown of the type of mobile broadband connections in Japan as of June 2016. In the OECD, Japan was ranked 1st (out of 35) for mobile wireless broadband subscribers as a percentage of population [OECD Broadband Subscribers (Feb. 2017) <www.oecd.org/sti/broadband>] • Standard mobile broadband subscriptions: 95.7% • Dedicated mobile data subscriptions: 50.8% Total: 146.4% (185.6 million subscriptions and accounting for 15.29% of all OECD subscriptions of 1.21 billion) and significantly above the OECD average total for June 2016 of 95.1%. Mobile broadband growth in Japan for the June 2015–2016 period was 12.3% (ranked 13 out of 35 for growth), above the OECD average growth of 10.7%. Note: From July 2015 OECD adjusted its definitions of fixed and mobile broadband by transferring the categories Satellite and Fixed Wireless from Mobile to Fixed Broadband. Note: The OECD wireless broadband figure includes both data and voice subscriptions (referred to as Standard Mobile Broadband) and data-only subscriptions (referred to as Dedicated Mobile Data). Note: The OECD figures include mobile data subscriptions, which are not as consistently reported in the ITU indicators.
9.4. Average Mobile Data Connection Speed (total megabits per second (Mbps) per country) (Q1 2017) • Average for all countries in this scorecard: 11 Mbps	16	In Japan the Q1 2017 average mobile data connection speed was 15.6 Mbps and is ranked 12th out of 70 countries measured by Akamai. This ranks Japan 5th for average mobile data connection speed 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/>]