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## Society 5.0: EU-Japanese cooperation and the opportunities and challenges posed by the data economy

**Ana Gascón Marcén** | Assistant Professor, Department of Public International Law and International Relations, Faculty of Law, University of Zaragoza.

### Theme

The EU and Japan share many challenges that they count on solving, at least partially, through technology development. There are tools for cooperating towards that goal but they must increase their efforts to become strategic players if they want to grasp the opportunities offered by Society 5.0.

### Summary

The EU and Japan encounter similar challenges with an ageing population, a low fertility rate and an expensive welfare state. Japan has decided to trust in technology as a force not only to improve its economy but also to solve its social problems with Society 5.0. The EU also wants to reap the benefits of the data economy in the hope that it will provide it with competitive advantages.

There are several new tools for EU-Japan cooperation that can be employed for this purpose, such as the Economic and Strategic Partnership Agreements and adequacy decisions to allow the free flow of personal data between them. They can join forces in cybersecurity, connectivity and artificial intelligence governance. The EU can be a key supporter of the initiatives sponsored by Japan in the G20, namely the Osaka Track and the G20 AI Principles. However, they must move on from a reactive to a strategic approach in order not to be left behind by competitors such as China and the US.

### Analysis

#### (1) Introduction

The EU and Japan, even if geographically far apart, are close in many respects. They share the challenges of an ageing population and low fertility rates, which result in some of the lowest potential support ratios in the world.<sup>1</sup> As the United Nations cautions, this has a huge impact on economic performance and fiscal pressure in relation to public healthcare systems, pensions and social protection schemes. The EU and Japan also depend on other countries for raw materials and energy and cannot compete in labour costs. All this means that to maintain their welfare states they have to specialise in the production of services and goods with a high added value. They must grasp the full

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<sup>1</sup> Defined as the number of people of working age (25 to 64 years) per person aged 65 years or over.

benefits of the data economy, because, as the European Commission explains, those that know how to use data have a decisive competitive advantage by raising their performance, offering more user-centred products and services, and fostering innovation. Data is used not just to improve digital services but to streamline manufacturing, predict future needs and better use resources in all manner of sectors, even the most traditional, such as agriculture.

The world's largest companies are players in the data economy but none of them are from the EU or Japan. That is why the EU wants to create a real Digital Single Market and one of the European Commission's priorities is to make Europe fit for the Digital Age. In the same vein, Japan has set as its goal the creation of Society 5.0. This will be a 'super-smart society' that goes beyond what other countries are doing, such as investing in leveraging the potential of ICT for the manufacturing sector (Industry 4.0). The process requires a holistic approach, not just harvesting the improvements in the economic field but in all other spheres of life and using them as a force for social transformation. The EU wants to follow the same course, using technology to improve the lives of its citizens and to continue to be a leading economic actor; hence, cooperation between Japan and the EU would seem reasonable to achieve this goal.

## (2) Cooperation between the EU and Japan in the data economy

### (2.1) *The Economic Partnership Agreement*

Over the past few years international economic governance has been shaken by the protectionist and unilateral approach of the Trump Administration's trade policy. The Administration of Barack Obama promoted international cooperation and free trade and negotiated an agreement with the EU (the Transatlantic Trade and Investment Partnership) and another with several partners in the Pacific, including Japan (the Trans-Pacific Partnership Agreement). However, the Trump Administration soon made it clear that the US would not sign such agreements, so the benefits that Japan and the EU were counting on never materialised. This left both with a need to find other avenues to increase their market access and boost their economies, and gave new impetus to the negotiation of an Economic Partnership Agreement (EPA) between the EU and Japan, under discussion since 2013 but only adopted in 2018 and that entered into force in February 2019.<sup>2</sup> Its aim is to facilitate the trade in goods and services and investments. Especially interesting when speaking about the data economy is the chapter on Trade in Services, Investment Liberalisation and Electronic Commerce.<sup>3</sup>

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<sup>2</sup> Paula Cisneros Cristóbal (2019), 'El acuerdo de asociación económica entre la Unión Europea y Japón: negociación, contenido y análisis de los elementos clave', *Derecho y relaciones internacionales en Japón: Desde el Tratado de Amistad, Comercio y Navegación de 1868*, Prensas de la Universidad de Zaragoza, 2019, p. 173-210; and Carmen Tirado Robles (2020), 'El acuerdo Unión Europea-Japón', en *La Unión Europea, promotora del libre comercio. Análisis e impacto de los principales acuerdos comerciales*, Aranzadi.

<sup>3</sup> One example of the common approach of Japan and the EU that appears in the EPA is that they ensure that neither party requires the transfer of, or access to, source codes of software owned by a person of the other party while the Chinese policy of forced technology-transfers is the opposite.

Japan and the EU knew that the potential of the EPA could not be fully realised without the free flow of personal data.<sup>4</sup> Nevertheless, the EU was reluctant to include this as a part of the EPA because it considers personal data protection a human right (as stated in Article 8 of its Charter of Fundamental Rights). The EU wanted to underline it was not a bargaining chip in trade negotiations.

## *(2.2) Personal data protection adequacy decisions*

The EU's General Data Protection Regulation (GDPR) limits the transfer of personal data from the EU to a third country to ensure that the data continue to be protected after the transfer. It allows several possibilities, such as binding corporate rules, standard data protection clauses, codes of conduct or certification mechanisms, but all require extra resources and may not be viable for SMEs. Any other basis for transfers, such as the consent of the subject, can only be used exceptionally. That is why the best way to facilitate the transfer of data from the EU is an *adequacy decision*, where the European Commission recognises that the third state ensures an adequate level of protection. This allows the free flow of personal data from the EU to the third country without any need for extra steps from its businesses; this is the case, for instance, of Andorra, Argentina, Israel, Switzerland and Uruguay.

Japan's data protection is regulated by the Act on the Protection of Personal Information (APPI). A modification of the APPI was adopted in 2015 in order to raise data protection standards (in line with EU norms), promote the use of big data and ultimately create a data protection authority, the Personal Information Protection Commission (PPC). The European Commission considered that the modified APPI did not have an equivalent level of protection to the GDPR. However, as both the EU and Japan wanted an adequacy decision in order to unleash the full potential of the EPA, they reached a compromise. The PPC adopted the *Supplementary Rules under the Act on the Protection of Personal Information for the Handling of Personal Data Transferred from the EU based on an Adequacy Decision*. This means that there is an additional layer of protection for personal data going from the EU to Japan in addition to that offered by the APPI, but it only applies to 'European', not 'Japanese', data. While some have praised the solution for its flexibility,<sup>5</sup> others have expressed their concern or found it insufficient,<sup>6</sup> although the European Commission has considered it adequate.

The Commission adopted its *Implementing Decision (EU) 2019/419 on the adequate protection of personal data by Japan under the APPI in January 2019*, to be ready just before the entry into force of the EPA. The reform of the APPI also limited cross-border transfers of personal data outside Japan, so the latter adopted an adequacy decision regarding the protection of personal data in the EU, in what was the first mutual adequacy

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<sup>4</sup> Dan Ciuriak (2018), *Rethinking industrial policy for the data-driven economy*, CIGI Paper, nr 192, <https://www.cigionline.org/sites/default/files/documents/Paper%20no.192web.pdf>, considers the free flow of data the 'fifth freedom' of commerce, alongside the freedom to move labour, capital, goods and services.

<sup>5</sup> Paul M. Schwartz (2019), 'Global data privacy: the EU way', *New York University Law Review*, nr 94, <https://paulschwartz.net/wp-content/uploads/2019/10/NYULAWREVIEW-94-4-Schwartz.pdf>.

<sup>6</sup> Graham Greenleaf (2018), 'Japan: EU adequacy discounted', *155 Privacy Laws & Business International Report*, p. 8-10.

decision in history. The European Commission and the PPC issued a joint press release underlying that they had created the world's largest area of safe data transfers. Now it is up to European and Japanese companies to reap the benefits. This makes it easier for businesses in Japan and the EU to offer their digital services in the other and to cooperate in sectors where the exchange of personal data is necessary.

Japan and the EU have also worked on their open data initiatives to help companies use the data in the hands of public entities and the EU has decided to facilitate the free flow of non-personal data through its Regulation (EU) 2018/1807.

### *(2.3) The G20's Osaka track*

Japan led the global approach to cross-border data flows with enhanced protection at the G20 summit it hosted in 2019 with the launch of the 'Osaka Track'. The initiative aimed to standardise rules for electronic commerce and the global movement of data flows with better protection for privacy, intellectual property and cybersecurity. The EU, the US, China and 21 other states formally signed the *Osaka Declaration on Digital Economy*, which commits the signatories to promote efforts on international rule-making in this area.<sup>7</sup> It was inspired by the idea of 'Data Free Flow with Trust' (DFFT) proposed by the Japanese Prime Minister, Shinzo Abe, at the World Economic Forum, also in 2019. It remains to be seen if it generates any practical results and can be understood as a reaction to the data localisation trends seen in some countries. It seems legitimate to limit data flows to better protect human rights, a core value of both Japan and the EU, but not to better control their citizens. Another issue is the discussion on 'data colonisation' and its role in development.

Japan and the EU defend free trade and multilateralism at the international level, and therefore promote negotiations in the World Trade Organisation (WTO) on trade-related aspects of electronic commerce that seek to achieve a high-standard agreement. In any case, the EU, in terms of data protection, should recall that all its member states are parties to the Council of Europe Convention for the protection of individuals with regard to the processing of personal data and that the Convention is a standard the EU should promote at the global level.

### *(2.4) The Strategic Partnership Agreement, cybersecurity and connectivity*

In parallel with the EPA, in 2018 the EU (and its member states) and Japan adopted a Strategic Partnership Agreement (SPA), applied (provisionally) from 2019.<sup>8</sup> The parties undertook to enhance cooperation on electronic communications, including Internet governance and online safety and security, interconnection of research networks, promotion of research and innovation activities, and standardisation and dissemination of new technologies. The parties also undertook to exchange views and information on

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<sup>7</sup> Graham Greenleaf (2019), 'G20 makes declaration of "Data Free Flow With Trust": support and dissent', *155 Privacy Laws & Business International Report*, p. 18-19, [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3514407&download=yes](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3514407&download=yes).

<sup>8</sup> Ana Gascón Marcén (2019), "Las relaciones entre Japón y la Unión Europea: pasos hacia una auténtica relación estratégica", *Derecho y relaciones internacionales en Japón: Desde el Tratado de Amistad, Comercio y Navegación de 1868*, Prensas de la Universidad de Zaragoza, p. 211-244.

their policies and activities on cyber issues, and encourage the exchange of views and information in international and regional forums (Article 21). They will protect human rights and the free flow of information to the maximum extent possible in cyberspace. For this purpose, and based on the understanding that international law applies in cyberspace, they will cooperate in establishing and developing international norms and promoting confidence-building in cyberspace (Article 36).

With the digitisation of the economy and the public sector, cybersecurity is gaining importance in Japan and the EU, and they are improving their capabilities even if late in comparison with other cyberpowers. They have an annual Cyber Dialogue<sup>9</sup> where they reaffirmed that no state should conduct or support ICT-enabled theft of intellectual property, including trade secrets or other confidential business information, with the intent of providing competitive advantages to its companies and commercial sectors. Both support the [Budapest Convention on Cybercrime](#) of the Council of Europe as a standard for the development of national legislation and international cooperation in fighting cybercrime.

One of the fields where Japan is an international leader in building infrastructure for the data economy is the [early 5G rollout](#). This technology will facilitate the capacity and speed of connections, allowing more devices to connect and exchange data, thus promoting the development of the Internet of Things (IoT). However, there are concerns about the possibility of building part of that infrastructure with Huawei equipment. Some countries, such as Japan and the US, have excluded it because of the risk of Chinese control, but in the EU the approach is highly [fragmented](#).

This fear of Chinese control is also present in other fields related to the digital economy. The acquisition in 2016 of the German robotics firm Kuka by a Chinese company prompted Germany to strengthen its national screening mechanism of foreign direct investment (FDI) and for the EU to adopt [Regulation \(EU\) 2019/452](#). It may be a weak mechanism,<sup>10</sup> but it is clearly focused on technology.<sup>11</sup>

Japan and the EU also follow with some concern China's role in telecommunications throughout the world with its Belt and Road Initiative. In response, in 2019 they adopted the [Partnership on Sustainable Connectivity and Quality Infrastructure between the EU and Japan](#). They propose a different approach, focusing on the partners' needs and demands and their fiscal capacity and debt-sustainability to support quality infrastructure.

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<sup>9</sup> George Christou & Yoko Nitta (2018), 'EU-Japan cybersecurity cooperation', in *EU-Japan Security Cooperation*, Routledge, p. 145-162.

<sup>10</sup> The Regulation neither fully harmonises FDI screening nor creates the possibility of blocking investments at the EU level; this continues to be exclusively the competence of the states. What the Regulation does is to create the possibility for the Commission to issue an opinion in certain cases.

<sup>11</sup> They pay special attention to critical infrastructure, whether physical or virtual, including communications, media, data processing or storage, critical technologies and dual-use items, including artificial intelligence, robotics, semiconductors, cybersecurity, aerospace, quantum technologies and nanotechnologies, access to sensitive information, including personal data, or the ability to control such information, and the freedom and pluralism of the media.

### *(2.5) Ethical AI principles*

A field in which Japanese and EU cooperation can be especially useful is Artificial Intelligence (AI) governance. They both feel that they are losing the race with the US and China and, in many respects, this is true. Japan and the EU have decided to invest heavily in research and development (R&D), the EU through its [Horizon Europe programme](#) and Japan through its [Moonshot programme](#) but this may still not be enough compared with their competitors. It is also important to remember that public funding is not enough and that the private sector has a crucial role to play investing in the development of these technologies.

Japan and the EU share as a matter of principle their core values of the respect for human rights, the rule of law and democracy and have decided to create an enabling environment for the development of AI, but at the same time minimising its risks. For instance, Japan led the introduction in its copyright law of an exception for text and data mining to facilitate the collection of data to feed AI models. The EU, through the GDPR, has promoted work on algorithm explainability.<sup>12</sup> However, they have also looked at AI not just from a fragmentary perspective but also through from a panoramic perspective, and that is why they have initiated an international discussion on AI's ethical principles.

In 2017 Japan adopted the [Draft AI R&D Guidelines](#),<sup>13</sup> in 2018 the [Draft AI Utilisation Principles](#) and, finally, in 2019 the [Social Principles of Human-Centric AI](#). The Social Principles that should steer the development, research and use of AI are: human-centric; education/literacy; privacy protection; ensuring security; fair competition; fairness, accountability and transparency; and innovation. Japan expects AI to greatly contribute to the realisation of Society 5.0, as it wants to reap its benefits and fight its risks through these principles, ensuring that AI is used to improve people's lives. The principles are intended to be a beacon for international discussion.

The EU has followed a similar course. In 2019 its High-Level Group on Artificial Intelligence adopted the [Ethics Guidelines for Trustworthy AI](#). The aim was to ensure that the development, deployment and use of AI systems met the requirements for Trustworthy AI: human agency and oversight, technical robustness and safety, privacy and data governance, transparency, diversity, non-discrimination and fairness, and environmental and societal well-being and accountability. The President of the European Commission promised that a legislation for a coordinated European approach on the human and ethical implications of AI would be put forward in her first 100 days in office. This should also look at how the EU can use big data for innovations that create wealth for both society and businesses. The Japanese Social Principles and the EU Ethics Guidelines are not identical but they clearly coincide on the importance of security, safety, privacy, transparency, fairness and accountability.<sup>14</sup>

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<sup>12</sup> Margot E. Kaminski (2019), 'The right to explanation, explained', *Berkeley Technology Law Journal*, vol. 34, nr 1, <https://scholarship.law.berkeley.edu/btlj/vol34/iss1/5/>.

<sup>13</sup> Souichirou Kozuka (2018), 'Japan's response to new technologies: draft artificial intelligence research and development guidelines for international discussions', *Zeitschrift für Japanisches Recht*, vol. 23, nr 46, p. 3-18.

<sup>14</sup> Souichirou Kozuka (2019), 'A governance framework for the development and use of artificial (cont.)

Even if China and the US are also working on their own lists of AI guidelines that contain many of the principles mentioned above, their goals differ from those of the EU and Japan. For instance, the US sees this as a way to protect its own businesses and to avoid the approval of hard legislation, attempting to discourage the EU from adopting regulations. China has surprised many by its willingness to be part of the discussion, but the question is if it is just making gestures, since its reluctance to limit the use of this technology by the state is obvious.

Japan has spearheaded the discussion at an international level, also in the G20 leaders' summit in 2019, and has gathered support for the (non-binding) G20 AI Principles that underline the importance of inclusive growth, sustainable development and well-being, human-centred values and fairness, transparency and explainability, robustness, security and safety, and accountability, which all rely strongly on the OECD Council Recommendation on AI. The question now is how to bring all these principles into practice and implement the necessary regulatory initiatives. For example, China was a signatory of the G20 AI Principles but it is difficult to understand how that matches a system based on massive surveillance and social credit scoring.

## Conclusions

In recent years, Japan and the EU have reinforced their cooperation through the EPA and the SPA. There have been many declarations of good intentions between them but currently it is time to put flesh on the bones of those commitments. A field in which Japan and the EU cannot afford to be left behind is the digital economy. Because of their demographic challenges, they are losing their place in the international economic arena: this may be inevitable, but one way to slow the process down is to exploit the competitive advantages offered by technology.

The EU and Japan have been relatively slow and mainly reactive in response to what is happening in the US and China, when they ought to be proactive and design their own paths and strategies. They need to spend more on R&D and create an environment that helps companies do the same. They should invest in education to have more people ready with the necessary skills and an entrepreneurial spirit that today is sadly lacking.

Their high legal standards could be a strength if Japan and the EU manage to create an enabling legal framework for AI. Adequacy decisions could generate more benefits if businesses were made aware of their advantages, and the same could be said for the EPA. Japan and the EU can support each other in the negotiations in international forums such as the G20 and the WTO, as they have similar goals. The big question is if the Osaka Track or the G20 AI principles will produce any practical results or if they will just be another international declaration of intentions.

On the subject of AI, Margrethe Vestager said at her hearing before the European Parliament to become a Commissioner for a Europe fit for the Digital Age, that some consider the Chinese to have all the data and the Americans all the money, but Europe

has a purpose. The same could be said about Japan, as the Social Principles of Human-Centric AI are very similar to the EU's Ethic Guidelines for Trustworthy AI. However, this would appear to be overoptimistic because the EU and Japan should put a far greater effort if they really want to achieve a society 5.0 that is more than just utopian. They should also be aware that technology is not the panacea and will not solve all their problems.