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***Intellectual Property Rights provisions of Regional Trade  
Agreements across ASEAN Countries***

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# Intellectual Property Rights provisions of Regional Trade Agreements across ASEAN Countries

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## ***Abstract***

*ASEAN's trade and economy are now undergoing digital transformation with significant growth in the online market. Technology and innovation play significant roles in the production of goods and services in all economic sectors of the region. ASEAN's Trade Agreements may facilitate the development of technology and innovation across their tariff systems applied to tech related products and services. Further, together with information technology agreements, such as the e-ASEAN Framework Agreement and the WTO's Information Technology Agreement, they create a framework to govern intellectual property rights (IPRs) which are the core element of the new technology generation and evolution. This analysis compares the non-binding instruments of the region and the provisions of its Mega-Regional Trade Agreements. Based on the initiative assessment of the impacts of regional instruments, the paper addresses the possibility to appraise the impacts of the Mega-Regional Agreements on the protection mechanisms of the IPRs under the different agreements of the ASEAN countries.*

**Key words:** ASEAN, Mega-Regional Trade Agreements, Intellectual Property, New Technology, Innovation

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## 1. Introduction

In the 90s, the first generation of regional trade agreements (RTAs) in the United States (U.S.) and the European Union (EU) with other countries, including WTO Member States, was launched. This phenomenon created the regime of WTO-plus<sup>1</sup> and WTO-extra<sup>2</sup> providing supplemental trading provisions which were more favourable for the participants of regional trading agreements. Gradual liberalisation of market access through lowering tariffs, reducing non-tariff barriers, and maintenance of economic power, geopolitical and security, was balanced amongst the great economies such as the U.S. and China, and led to the emergence of mega-regional trade agreements in the 21st century.<sup>3</sup> In theory, they may enhance and favour entrance into new markets, encourage the economy with limited financial blueprint, reform “old-fashioned” agreements, attain broader objectives, strengthen the competitive economy, and establish a new direction for multilateral agreements in the future. This forms the basis of mega-regional agreements, which are defined as the “*deep integration partnerships between countries or regions with a major share of world trade and foreign direct investment (FDI) and in which two or more of the parties are in a paramount driver position, or serve as hubs, in global value chains*”.<sup>4</sup>

There are currently 369 regional trade agreements in force and notified to the WTO.<sup>5</sup> Within this figure, the Association of Southeast Asian Nations (ASEAN) has established two regional trade agreements amongst its Member States, namely the ASEAN Free Trade Area (AFTA) and the ASEAN Trade in Services Agreement (ATISA), and concluded free trade agreements with seven partners, namely:

- People’s Republic of China (ACFTA),
- Hong Kong, China (AHKFTA),
- Republic of Korea (AKFTA),
- Japan (AJCEP),
- India (AIFTA)
- Australia and New Zealand (AANZFTA).

The ASEAN countries have initiated and concluded the Regional Comprehensive Economic Partnership (RCEP), which entered into force in January 2022. Some Member States are also parties to the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP). These mega-regional

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<sup>1</sup> WTO-plus obligations are the extension of the existing terms of the WTO mechanism. See, **J. Y. Qin** (2003), “WTO-Plus” Obligations and Their Implications for the World Trade Organisation Legal System. An Appraisal of the China Accession Protocol’, *Journal of World Trade* 37(3), pp. 483-484. Available online at <https://www.worldtradelaw.net/document.php?id=articles/qinwtoplus.pdf>. Accessed on 13 July 2024.

<sup>2</sup> WTO extra provisions tackle the matters beyond the existing WTO mandate. Also see, **H. Horn, P. C. Mavroidis, A. Sapir** (2009), ‘Beyond the WTO? An anatomy of EU and US preferential trade agreements’, *Bruegel Blueprint Series*, pp. 1. Available online at [https://www.bruegel.org/sites/default/files/wp-content/uploads/imported/publications/bp\\_trade\\_jan09.pdf](https://www.bruegel.org/sites/default/files/wp-content/uploads/imported/publications/bp_trade_jan09.pdf). Accessed 13 July 2024.

<sup>3</sup> **C. P. Brown** (2016), ‘Mega-Regional Trade Agreements and the Future of the WTO’, pp. 30-31. Available online at <https://www.jstor.org/stable/pdf/resrep29885.6.pdf>. Accessed on 13 July 2024.

<sup>4</sup> World Economic Forum (2014), *Global Agenda Council on Trade & Foreign Direct Investment, Mega-regional Trade Agreements Game-Changers or Costly Distractions for the World Trading System?* Available online at [https://www3.weforum.org/docs/GAC/2014/WEF\\_GAC\\_TradeFDI\\_MegaRegionalTradeAgreements\\_Report\\_2014.pdf](https://www3.weforum.org/docs/GAC/2014/WEF_GAC_TradeFDI_MegaRegionalTradeAgreements_Report_2014.pdf). Accessed on 2 July 2024.

<sup>5</sup> Regional Trade Agreements Database, available online at <https://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>. Accessed on 13 July 2024.

trade agreements establish the world's largest trading blocs. Accordingly, RCEP was produced based on the ASEAN + 1 FTAs, including ASEAN countries and its six key partners—i.e. Australia, the People's Republic of China, India, Japan, Republic of Korea, and New Zealand. It focuses on “trade in goods and services, investment, economic and technical cooperation, intellectual property, competition, dispute settlement, e-commerce, small and medium enterprises (SMEs)”.<sup>6</sup> It now embraces about 30% of global gross domestic product (GDP) and population, and is expected to reach 35% of GDP in 2030. To compare, in 2018, the CPTPP was established with the participation of 12 countries, i.e. Japan, Malaysia, Vietnam, Australia, Singapore, Brunei Darussalam, New Zealand, Canada, Mexico, Peru, Chile. As of the end of September 2022, the CPTPP Member States were worth £60.5 billion (\$76.84 billion) within 12 months. Thereafter, the UK became a party to the CPTPP in 2023, which now accounts for 15% of global GDP.<sup>7</sup> This trade bloc is estimated to have a total GDP of £11 trillion (\$13.97 trillion).<sup>8</sup>

Considerable effects of these mega-regional trade agreements as well as the regional trade agreements on goods and services trade are undeniable. The regional trade agreements may foster the distribution of new technology, provide technical collaboration, and advance the products' designs. They are the fruitful results of FDI, market access, and free trade with the partners brought by these agreements.<sup>9</sup> This article will first analyse the impacts of the regional trade agreements on the technology transfer and development in the ASEAN countries, and their correlation with the provisions of these agreements (Section 2). Secondly, the impact of recent mega-regional trade agreements in the ASEAN regions shall be analysed and compared with the regional trade agreements in terms of intellectual property rights (IPRs) provisions and choices of their applications (Section 3).

## 2. Trade Agreements and Technology Movements

In addition to promoting trade, the Regional Trade Agreements (RTAs) are also known for their impact to augment the country's “Total Factor Productivity” through “technology transfer”,<sup>10</sup> which is the ability to access a wide range of new, higher technologies can facilitate all components of production by increasing the productive capacity. For example, importing countries can capitalize Research and Development (R&D) to create products with more advanced technologies and strategically import key components from exporting

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<sup>6</sup> ASEAN, *Regional Comprehensive Economic Partnership (RCEP)*. Available online at <https://asean.org/our-communities/economic-community/integration-with-global-economy/the-regional-comprehensive-economic-partnership-rcep/>. Accessed on 14 July 2024.

<sup>7</sup> Forum Institutional (2023), *World Economic, These are the world's biggest trading blocs*. Available online at <https://www.weforum.org/agenda/2023/04/growth-summit-2023-world-biggest-trading-blocs/>. Accessed on 14 July 2024.

<sup>8</sup> UK Government, *UK strikes biggest trade deal since Brexit to join major free trade bloc in Indo-Pacific*. Available online at <https://www.gov.uk/government/news/uk-strikes-biggest-trade-deal-since-brexit-to-join-major-free-trade-bloc-in-indo-pacific>. Accessed on 14 July 2024

<sup>9</sup> V. Gammadigbe (2021), ‘Is Regional Trade Integration a Growth and Convergence Engine in Africa?’, IMF Working Paper, WP/21/19, pp.1-6. Available online at <https://www.elibrary.imf.org/view/journals/001/2021/019/article-A001-en.xml?ArticleTabs=abstract>. Accessed on 14 July 2024.

<sup>10</sup> “Technology transfer” in a normal context could be defined as a “process of conveying results stemming from scientific and technological research to the marketplace and to wider society, along with associated skills and procedures, and is as such an intrinsic part of the technological innovation process.”. See European Commission (2023), *Knowledge for Policy, What is technology transfer?.* Available online at [https://knowledge4policy.ec.europa.eu/technology-transfer/what-technology-transfer\\_en](https://knowledge4policy.ec.europa.eu/technology-transfer/what-technology-transfer_en). Accessed on 14 July 2024. However, in the context of international trading, it means “the arrival or the transfer of a certain technology to a country, where it has not been used before”. See, M. Hoppe (2005), ‘Technology Transfer Through Trade’, pp. 1. Available online at <https://www.feem.it/Feem/Pub/Publications/WPapers/default.htm>. Accessed on 14 July 2024.

countries leading relevant industries. On the contrary, it can also lead to negative effects where the trade agreements drive trade to exporting countries having a lower capacity/technology level.<sup>11</sup>

This Section begins by examining the technology development landscape, absorbability and capacity gaps in each ASEAN Member State (2.1). It then aims to examine whether the RTAs influence technology not only in respect of productivity but also from other aspects including self-development and receipt of transfer of advanced technology (2.2).

### *2.1 Technology movements in ASEAN countries*

The RTAs involving ASEAN countries must tackle the differences amongst them. Key differences include ‘factor endowments’, ‘human capital development’, ‘technological capabilities’, and ‘productivity’. In terms of trade, each Member State exports a variety of products. For instance, Brunei Darussalam, Indonesia, Malaysia, and Myanmar primarily export fuels and minerals; Indonesia, Myanmar, and Vietnam are established agricultural product exporters; Cambodia, Malaysia, Philippines, Singapore, Thailand, and Vietnam export manufactured products; and the Philippines, Singapore specialise in exporting commercial services. However, all ASEAN countries import manufactured goods.<sup>12</sup> Therefore, it is not a simple task to measure the levels of technological capability of each country and the impact of the RTAs to change their capacity.

This paper shall examine obtainable statistics and figures based on the indices, including the applications of patents, trademarks, industrial designs and registration time, as well as the “Frontier Technology Readiness Index” published by the United Nations Conference on Trade and Development (UNCTAD).<sup>13</sup>

Referring to the Figures 1–6 and Table 1 of Appendix I, which relates to the applications of industrial properties in the ASEAN countries 2011–2021,<sup>14</sup> it is observed that the applications of patents abroad by non-residents are much higher than the applications of patents by residents in these countries. The applications cannot guarantee the availability of technology transfer of the technology of concerned patent applications. The applications of trademarks and industrial designs by residents is almost higher than those of non-residents. In general, the total number of applications of intellectual properties from both residents and non-residents in the majority of Member States tended to increase during the period, except for 2019, 2020, and 2021.

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<sup>11</sup> *Global Economic Prospects Washington* (2005), ‘Chapter 3: Regional Trade Agreements: Effects on Trade’ in *D.C.: World Bank Group, Global economic prospects 2005: trade, regionalism and development*, pp. 64. Available online at <https://documents.worldbank.org/curated/en/930291468339563307/Global-economic-prospects-2005-trade-regionalism-and-development>. Accessed on 14 July 2024.

<sup>12</sup> **Kawai, M., Naknoi, K.** (2015), ASEAN Economic Integration through Trade and Foreign Direct Investment: Long-Term Challenges, Asian Development Bank Institute (ADBI) Working Paper Series No. 545, October 2015, pp. 4. Available online at <https://www.adb.org/sites/default/files/publication/174835/adbi-wp545.pdf>. Accessed on 14 July 2024.

<sup>13</sup> Data sources: <https://unctadstat.unctad.org/datacentre/reportInfo/US.FTRI>. Accessed on 14 July 2024

<sup>14</sup> Data sources: <https://data.worldbank.org/>; <https://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>; <https://unctadstat.unctad.org/datacentre/reportInfo/US.FTRI>. Accessed on 14 July 2024

On the one hand, it is argued that the patents and research papers cannot alone explain the degree of technological accomplishment of these countries.<sup>15</sup> On the other hand, the augmentation of the number of applications of industrial properties (Figures 1 to 6) and research articles (Figure 7), especially from the residents show good indicators of innovative activities and technological development in the ASEAN countries. There are noticeable gaps between the Member States: nearly all patent applications come from countries focusing on exporting manufactured products (Malaysia, Philippines, Singapore, Thailand, and Vietnam, except Cambodia). The registration duration is likely reduced in some of these countries. Although it is impossible to estimate the degree of technology achievement of the region through these figures, they suggest that the use, adaptation and development of new technologies of the Member States is expedited in these countries because of the number applications presumably filed for the local deployment of technologies.<sup>16</sup>

The UNCTAD's statistics on the Frontier Technology Readiness Index share many components with the Technology Achievement Index. The Index demonstrates the national technological capacities related to 'physical investment', 'human capital', and 'technological effort', to use, adopt, and adapt frontier technologies. The Index covers five principal blocks: 'Information and Communication Technology (ICT) deployment', 'skills', 'R&D activity', 'industry activity', and 'access to finance'. (Figure 9) The overall index clearly shows the chasm between the capacities of the countries in the region, especially between less developed countries (Lao, Cambodia and Myanmar)<sup>17</sup> and the other ASEAN Member States—which are developing and developed countries. However, it must also be noted that their capacity gradually increases with time, reducing gaps amongst the Member States. This would help the region create a more balanced technical infrastructure for receiving new waves of higher technology products and services in the near future after the recent conclusion of the mega-regional trade agreements. It also establishes and strengthens its absorptive capacity.

## 2.2 Regional Trade Agreements on Technologies

*Non-binding instruments of IPRs protection.* In 2012, the e-ASEAN Agreement was adopted, requiring Member States to adopt measures to protect IPRs derived from e-commerce. It calls for ASEAN Member States to sign treaties established by the World Intellectual Property Organization, such as the "WIPO Copyright Treaty 1996" and "WIPO Performances and Phonograms Treaty 1996".<sup>18</sup> In 2012, the Sectoral

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<sup>15</sup> World Bank (2008), *Findings from a World Bank Report, Global Economic Prospects 2008: Technology Diffusion in the Developing World*. Available online at

<https://www.worldbank.org/content/dam/Worldbank/GEP/GEParchives/GEP2008/GEP08KeyFindings.pdf>. Accessed on 11 July 2024. However, the statistics of the applications of residents and non-residents for patents, trademarks and industrial designs may still provide some landscape insights of potential exploitation of Intellectual Property Rights in the region and ASEAN countries.

<sup>16</sup> **Matsuura, Y.** (2023), 'Innovation Trends in ASEAN - Leading Companies and Growth Areas as Deciphered from Patent Applications', Mitsui & Co. Global Strategic Studies Institute Monthly Report, pp. 6. Available online at [https://www.mitsui.com/mgssi/en/report/detail/\\_icsFiles/afiedfile/2023/05/26/2304q\\_matsuura\\_e.pdf](https://www.mitsui.com/mgssi/en/report/detail/_icsFiles/afiedfile/2023/05/26/2304q_matsuura_e.pdf). Accessed on 14 July 2024.

<sup>17</sup> UN, *List of least developed countries*. Available online at <https://www.un.org/ohrls/content/list-ldcs>. Accessed on 14 July 2024.

<sup>18</sup> Article 5 para 1 e-ASEAN agreement "Member States shall adopt electronic commerce regulatory and legislative frameworks that create trust and confidence for consumers and facilitate the transformation of businesses towards the development of e-ASEAN. To this end, Member States shall: [...] (d) adopt measures to protect intellectual property rights arising from e-commerce. Member States should consider adoption of the World Intellectual Property Organisation (WIPO) treaties, namely: "WIPO Copyright Treaty 1996" and "WIPO Performances and Phonograms Treaty 1996";"

Integration Protocol for e-ASEAN was adopted, introducing a roadmap promoting the collaboration to protect trademarks, patents and extending its encouragement to exchange and enforcement of copyrights information.<sup>19</sup> It left room for the Member States' legislators to lay down the necessary and binding domestic measures protecting the IPRs.

In addition to these instruments, the implementation of RTAs, particularly through FDI<sup>20</sup> and trading, is one of the main channels of technology transfer by supporting technological innovation in both exporting and importing countries. This could bring the technology spillover, which are 'unintentional technological benefits' that a trade partner (of the country entering the picture of trade) could receive from the R&D activities of a leading trade partner (of a country having advanced economy) without sharing expenses.<sup>21</sup> Research has shown that almost all RTAs facilitate technology spillovers, evidenced by the increase of cross-border patent citations.<sup>22</sup> In addition to technology transfer, RTAs may facilitate the self-development of technology from the point of view of the exporting countries, especially for the developing economies.

**Technology transfer.** Direct technology transfer refers to the circumstance where the IPRs owner (sub)licences the right to use or transfers IPRs ownership to foreign firms to integrate the technology into the latter's products and services, in exchange for royalties. Economic research has indicated that royalty payments for technology transfer from developed to developing countries increases in both RTAs that have, and RTAs that do not have IPRs provisions. However, royalty payments increase considerably in RTAs that have IPRs provisions in comparison with payment related to the RTAs without IPR protection (see Figure 10: Evolution of Royalty Payments for Technology Transfer following the RTAs).<sup>23</sup> This may be a result of higher costs for the purpose of compliance with the RTAs and harmonised domestic regulations in theory.

Technology transfer is not only subject to IPRs provisions, but also access to the technology related markets, liberalisation in different sectors—especially financial services and products—investment protection, dispute resolution mechanism, limit of appropriation of intellectual properties, procurement, and regulations on state-owned companies.<sup>24</sup> Table 2's<sup>25</sup> Appendix I shows that the mega-regional trade agreements (MRTAs) likely provide much more detailed provisions facilitating technology transfer compared to ASEAN+1 RTAs. In particular, they commit to IPRs protection beyond the standard set by the Agreement on Trade-Related

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<sup>19</sup> [Appendix I - Roadmap for Integration of E-ASEAN Sector, Sectoral Integration Protocol for e-ASEAN](#)

<sup>20</sup> He, W. (2019), 'Technology Transfer, Technology Gap and Technology Spillover: a Dynamic Model', IAENG International Journal of Computer Science, 46:1, IJCS\_46\_1\_10. Available online at [https://www.iaeng.org/IJCS/issues\\_v46/issue\\_1/IJCS\\_46\\_1\\_10.pdf](https://www.iaeng.org/IJCS/issues_v46/issue_1/IJCS_46_1_10.pdf). Accessed on 14 July 2024.

<sup>21</sup> Sun, Y., Fan, P. (2017), 'Technology Spillover'. Available online at [https://www.researchgate.net/publication/373299802\\_Technology\\_Spillover#:~:text=Technology%20spillover%20refers%20to%20the,to%20firms%20in%20emerging%20economies](https://www.researchgate.net/publication/373299802_Technology_Spillover#:~:text=Technology%20spillover%20refers%20to%20the,to%20firms%20in%20emerging%20economies). Accessed 14 July 2024.

<sup>22</sup> Jinji, N., Zhang, X., Haruna, S. (2012), 'The Effect of Regional Trade Agreements on Technology Spillovers through International Trade', Discussion Paper No. E-11-006, Research Project Center, Graduate School of Economics Kyoto University. Available online at <https://www.econ.kyoto-u.ac.jp/projectcenter/Paper/e-11-006.pdf>. Accessed on 14 July 2024.

<sup>23</sup> Santacreu, A. M. (2021), 'Intellectual Property Rights, Technology Transfer and International Trade', pp.6-8. Available online at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3885234](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3885234). Accessed on 14 July 2024. Also see, Santacreu, A. M., LaBelle, J. (2021), 'Technology Transfer and Regional Trade Agreements', No. 23, Economic Synopses. Available online at <https://files.stlouisfed.org/files/hdocs/publications/economic-synopses/2021/09/20/technology-transfer-and-regional-trade-agreements.pdf>. Accessed on 14 July 2024.

<sup>24</sup> Maskus, K. (2016), 'Patents and Technology Transfer through Trade and the Role of Regional Trade Agreements', pp.3-5. Available online at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=2745455](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2745455). Accessed on 14 July 2024.

<sup>25</sup> Data source: <https://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>



Aspects of Intellectual Property Rights Agreement (the TRIPS Agreement). MRTAs also provide for Government Procurement and administrative digitalisation, including digital custom procedures in order to produce a framework enhancing the technology import/export. Technology transfer may be conducted through many channels, including IPRs (sub-)licensing, transfer, international trade and FDI. For example, RCEP does not allow performance requirements regarding local content and technology transfer for the purpose of market access.<sup>26</sup>

Knowledge and technology spillovers are indirect, external benefits of technology transfer through the FDI, which could bring both positive and negative effects to the national economy, specifically the local companies. In this case, the local company's ability to absorb benefits is paramount. At a micro level, the absorptive ability refers to the local companies' differences in technical levels, capacity, export experience, and human skills. At a macro level, the country's technological, financial, and industrial infrastructures shall decide how positive or negative the spillover effect could be.<sup>27</sup> If a local company can absorb and process the new technologies at a high degree, their productivity would be augmented under the spillover effects. A low absorptive capacity on the other hand could be an obstacle to productivity and bring out negative spillover results.

**Technology development.** In addition to technology transfer, strong competition created by the RTAs requires its signatories to enhance domestic technology capacity. For example, AFTA and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) both led to products being exported to Thailand but with much lower taxes and tariffs. It generated fierce competition between the foreign manufacturers and exporters, and local Thai companies.<sup>28</sup>

Trade agreements may also promote the growth and competitiveness of the trade actors, especially for micro, small, and medium-sized enterprises (MSMEs).<sup>29</sup> For instance, the IPRs provisions of the trade agreements which go beyond the standard WTO's TRIPS Agreement would cut down the trade expenses of the 'Intellectual Property sensitive goods' and encourage technology innovation.<sup>30</sup> Amongst ASEAN's RTAs seven have provisions related to MSMEs: the ASEAN-Australia-New Zealand Free Trade Agreement (Article 10.9 - Electronic commerce), ASEAN-China Free Trade Agreement (Article 2.7 Cooperation), ASEAN-Hong

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<sup>26</sup> **Armstrong, S., Drysdale, P.** (2022), 'Chapter 9 - The Implications of the Regional Comprehensive Economic Partnership for Asian Regional Architecture', in Kimura, F., S. Thangavelu, and D. Narjoko (eds.), RCEP: Implications, Challenges, and Future Growth of East Asia and ASEAN. Jakarta: ERIA, pp.247-267. Available online at [https://www.eria.org/uploads/media/Books/2022-RCEP-Book1/13\\_Ch.9-Implications-RCEP-for-Asian-Regional-Architecture.pdf](https://www.eria.org/uploads/media/Books/2022-RCEP-Book1/13_Ch.9-Implications-RCEP-for-Asian-Regional-Architecture.pdf). Accessed on 15 July 2024.

<sup>27</sup> **Feng, S.** (2019), Technology Transfer Spillover from FDI - A Comprehensive Literature Review, Advances in Economics, Business and Management Research, volume 146, Fourth Asian B&R Conference on International Business Cooperation (ISBCD 2019), pp. 7-10. Available online at <https://www.atlantis-press.com/article/125941798.pdf>. Accessed on 14 July 2024.

<sup>28</sup> **Komolavanij, S., Jeenanunta, C., Ammarapala, V., Chongphaisal, P.** (2008), 'Chapter 3. Thailand Regional Free Trade Agreements (FTA) and the Effect on Industrial Clustering', in Kuchiki, A., Tsuji, M., IDE-JETRO, the 'Formation of Industrial Clusters in Asia and Regional Integration', Midterm Report. Available online at [https://www.ide.go.jp/library/English/Publish/Reports/InterimReport/2008/pdf/2008\\_0111\\_ch3.pdf](https://www.ide.go.jp/library/English/Publish/Reports/InterimReport/2008/pdf/2008_0111_ch3.pdf). Accessed on 14 July 2024.

<sup>29</sup> WTO, *MSME provisions in regional trade agreements*. Available at [https://www.wto.org/english/tratop\\_e/msmesandtra\\_e/rtaprovisions\\_e.htm](https://www.wto.org/english/tratop_e/msmesandtra_e/rtaprovisions_e.htm). Accessed on 14 July 2024.

<sup>30</sup> WTO Center VCCI (2023), *Free trade agreements are key to economic prosperity in today's world*. Available online at <https://wtocenter.vn/tin-tuc/21977-free-trade-agreements-are-key-to-economic-prosperity-in-todays-world>. Accessed on 14 July 2024.



Kong-China Free Trade Agreement (Article 3.17 Rules of Origin, Article 9.1 Cooperation), ASEAN-India Free Trade Agreement (Article 20 Trade in Services, Article 6.6 Cooperation), ASEAN-Japan Free Trade Agreement (Article 8.53 Cooperation), ASEAN-Korea Free Trade Agreement (Article 8 Trade in Services, Article 3.1 Cooperation), and AFTA (Article 3.39 Rules of Origin, Article 5.45 Trade Facilitation). In particular, the provisions on cooperation aim to boost the technology transfer phenomenon amongst the parties, enhance their productive and export capacities through the adoption and integration of new technology, and involve the MSMEs in the R&D activities and collaboration projects. The MRTAs also simplifies and makes the procedure of IPRs acquisition more transparent, for example the CPTPP (Chapter 18 Article 13 xxxi).<sup>31</sup>

### 3. Emergence of Mega-regional trade agreements

Based on the analysis of RTAs and their impacts on the technology transfer and development in the region, Section 3 will compare the IPRs provisions of RTAs and non-binding instruments, and IPR protection regime of two mega-regional trade agreements of the ASEAN countries: the CPTPP and RCEP. It will first study how MRTAs have evolved by examining modern provisions of this new generation of RTAs, which use additional terms which assist the progress of the technology advancement, especially for ASEAN's developing and less developed countries. This first part will evaluate the fulfilment of their roles and missions as anticipated (3.1). It will then analyse the application frequency of these MRTAs by the Member States, and whether they choose to apply the RTA or MRTA's protections in practice. Finally, it proposes measures to assess their actual impacts to the development of technology across ASEAN (3.2).

#### 3.1 Designs and objectives of the mega-regional trade agreements

RCEP is currently the largest trade bloc in the world since its entry into force as of 1 January 2022. It was designed as a consolidation of the FTAs between the ASEAN Member States and Australia, China, Japan, the Republic of Korea, and New Zealand. RCEP represents a new initiative to set up rules governing economic growth as well as the challenges of new technologies. It promotes the growth of technology, free data flows, personal data protection and investment. RCEP's objective covers a significant number of economic, legal and technical gaps amongst multiple parts of Asia.<sup>32</sup> Furthermore, RCEP is designed to have a strong, deep interconnection through regional value chains and existing ASEAN+1 RTAs. This helps diminish trading expenses and ease the market access process.<sup>33</sup> Meanwhile, the CPTPP maintains the high standards and driving ambitions of the Trans-Pacific Partnership (TPP) to provide adequate market access. It explicitly provides non-discrimination rules and excludes custom duties, applied to digital products, and removes import tariffs across all trade sectors.<sup>34</sup>

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<sup>31</sup> WTO (2022), *Informal Working Group on MSMEs, MSME-related Language in Regional Trade Agreement* (revision), no.INF/MSME/W/6/Rev.3. Available online at <https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/INF/MSME/W6R3.pdf&Open=True>. Accessed on 14 July 2024.

<sup>32</sup> Ibid 24

<sup>33</sup> Park, I. (2022), 'Comparison of the Regional Comprehensive Economic Partnership (RCEP) and Other Free Trade Agreements (FTAs)', ERIA Discussion Paper Series No. 439, pp. 18-26. Available online at [https://www.eria.org/uploads/media/discussion-papers/FY22/Comparison-of-the-Regional-Comprehensive-Economic-Partnership-\(RCEP\)-and-Other-Free-Trade-Agreements-\(FTAs\).pdf](https://www.eria.org/uploads/media/discussion-papers/FY22/Comparison-of-the-Regional-Comprehensive-Economic-Partnership-(RCEP)-and-Other-Free-Trade-Agreements-(FTAs).pdf). Accessed 14 July 2024.

<sup>34</sup> Elms, D., 'The Comprehensive and Progressive Trans-Pacific Partnership Policy Innovations and Impacts, Global Economic Dynamics'. Available online at [http://aei.pitt.edu/102526/1/MT\\_Comprehensive\\_and\\_Progressive\\_Trans-](http://aei.pitt.edu/102526/1/MT_Comprehensive_and_Progressive_Trans-)

The contents and application of RTAs illustrate the input of the IPRs chapter in the reinforcement and compatibility of their IPRs mechanisms integrating/reaffirming (RCEP) or being beyond (CPTPP) the WTO's standard TRIPS agreement. These mechanisms usually came from the developed countries at their request. It led to the reforms of IPRs protections within developing countries' legal systems. They limit the freedom of the least developed countries to establish or revise their own IPRs protection mechanisms. There is a great gap between these countries' domestic IPRs provisions and those of the RTAs. Furthermore, their technology infrastructure levels are still inadequate for the implementation of IPRs provisions of the RTAs. The main goal of their reform is solely for trading benefits from the RTAs. These issues may persist following reforms initiated by the implementation the MRTAs.<sup>35</sup>

The integration of the TRIPS Agreement's standards, or higher, appears to be the standard for MRTAs. Both RCEP and CPTPP are designed as such. Table 3 demonstrates the similarities as well as differences between the two MRTAs. In general, their design and structure are mostly alike, advanced and much more detailed than the usual RTAs. However, there are still significant differences between the two agreements. The CPTPP appears to engage more technical provisions than RCEP, for example, the “transparency principles” (from prov\_29 to prov\_32 Table 3) requiring the registration of “geographical indications”, “industrial design”, “new plant variety”, “patent applications” available to public, and “protection of data and undisclosed information” (from prov\_80 to prov\_84), etc. This created a diverse, value-added regime of IPR provisions amongst the Member States which are the participants of both RCEP and CPTPP. These countries benefit from the reform of the IPR mechanism of other members with more detailed and complex agreements. Less developed countries may also profit the most from these provisions under the condition of their construction of adequate IPRs protection regimes.<sup>36</sup>

In detail, the CPTPP contains high degrees of IPRs protection in comparison with the local laws, regulations of its Member States—for example, in developing countries like Vietnam. Its IPRs chapter extends the scope of application to ‘testing data’, information of ‘agricultural-chemical product’, ‘transparency of IPRs registration filing’, etc. It sets forth the criminal measures and customs formalities of its Member States.<sup>37</sup> Before withdrawing from the original Trans-Pacific Partnership (TPP) in 2017, the U.S. endorsed certain intellectual property provisions which are not mentioned in the final text of the CPTPP. These provisions favoured longer copyright terms, allowing automatic patent extension, and dividing protections for new technology.

It bears mentioning that the CPTPP is designed as a living agreement with the possibility to be updated as emerging trade challenges are tackled: encouraging trade, investment in innovative goods, service, including

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[Pacific Partnership.pdf](#). Accessed 14 July 2024. Also see, ‘Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) *7 Things You Should Know*’. Access 14 July 2024.

<sup>35</sup> **Campi M., Duenas M.** (2017), ‘Intellectual Property Rights, Trade Agreements, and International Trade’, pp. 21-22. Available online at [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=3030826](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3030826). Accessed on 14 July 2024.

<sup>36</sup> Asian Development Bank (2022), *The Regional Comprehensive Economic Partnership Agreement a New Paradigm in Asian Regional Cooperation?*. Available online at <http://dx.doi.org/10.22617/TCS220172-2>. Accessed on 14 July 2024.

<sup>37</sup> **Nguyen, P. Q.** (2021), ‘Impacts of IPRs Basic Provisions in CPTPP on Technology Impacts of IPRs Basic Provisions in CPTPP on Technology Transfer and Innovation - Suggestion in Indonesia’, Vol 18 N° 4 Innovation & Intellectual Property II. Available online at <https://scholarhub.ui.ac.id/cgi/viewcontent.cgi?article=1255&context=ijil>. Accessed on 4 September 2024.

questions relating to the digital economy, green technologies, and competition.<sup>38</sup> The CPTPP also covers broader intellectual property concerns—for example, public health, undisclosed information, etc.—with higher protection standards and stricter, more wide-ranging IPRs enforcement mechanisms than those in the RCEP. The former, having more developed countries as the parties, aims to gain more economic advantage. Furthermore, the CPTPP focuses on the emergence and rise of the digital economy. Meanwhile, the latter is involved with more developing States parties, which appears to give them the opportunities to bridge their differences of R&D capacities from the developed ones by balancing the benefits, rights and obligations of the participants and applying non-discrimination principles.<sup>39</sup>

### *3.2 Choices of regional trade agreements and potential assessment of their impacts*

The positive correlation between the IPRs systems and FDI is complicated and hard to clarify or explain in detail. The attractiveness of trade partners to an economy is not limited to the IPRs protection mechanism but also other significant legislative elements, such as taxation, investment protection systems, production and trade policy, competition rules.<sup>40</sup> In practice, tax incentives are usually the key element to make the investment decision in any destination. Having numerous RTAs allows trade partners to choose amongst the multilateral, bilateral RTAs, and MFN schemes. The probability of an RTA regime application is usually subject to the margin of preference based on the divergence of MFN, RTA tariff rates and the relaxation of Rules of Origin. The utilisation rate of an RTA is defined as “*the share of trade using the RTA scheme out of trade eligible for preferential tariff rate under the RTA*”. In other words, it refers to the ratio of total trade between the State parties under the RTA (so-called “actual trade under the RTA”) to the trade that would be conducted to the best advantage of the preferential tariff rates provided by the RTA (referred to as “preferential rate of the RTA”). Therefore, the RTA’s utilisation rate shall be increased if preferential rate of the RTA decreases.<sup>41</sup> In many cases, the multinational enterprises, having many subsidies in different countries could be used to profit from the most favourable incentives under the FTAs and other regional, international agreements. Particularly, the enterprises can choose the RTA through their subsidies established in different countries which are the Member States of the RTA. It takes advantage of the spaghetti bowl where the trade partners shall take into account the most important elements to their business.

It is observed that the countries participating in numerous RTAs are likely those with economies with competitive science and technology clusters. When comparing the participation of goods and services RTAs by the WTO (Figure 11)<sup>42</sup> and the map of top 100 clusters worldwide in 2024 by WIPO (Figure 12),<sup>43</sup> the

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<sup>38</sup> US-ASEAN, *Trade Agreements, About CPTPP and RCEP*. Available online at <https://www.usasean.org/trade-agreements>. Accessed on 14 July 2024.

<sup>39</sup> He, S. (2023), ‘Comparative Analysis of Intellectual Property Clauses of RCEP and CPTPP’, *Highlights in Business, Economics and Management*, Vol. 13. Available online at <https://doi.org/10.54097/hbem.v13i.8620>. Accessed on 4 September 2024.

<sup>40</sup> Maskus, K. E. (2000), ‘Intellectual Property Rights and Foreign Direct Investment’, Centre for International Economic Studies Policy Discussion Paper No. 0022. Available online at [https://www.iatp.org/sites/default/files/Intellectual\\_Property\\_Rights\\_and\\_Foreign\\_Direc.htm](https://www.iatp.org/sites/default/files/Intellectual_Property_Rights_and_Foreign_Direc.htm). Accessed on 14 July 2024.

<sup>41</sup> Urata, S., Yoshimi, T., Hayakawa, K. (2017), ‘Designing mega-regional trade agreements’, Voxeu column. Available online at <https://cepr.org/voxeu/columns/designing-mega-regional-trade-agreements>. Accessed on 10 June 2024.

<sup>42</sup> WTO *Regional Trade Agreements Database*. Available online at <http://rtais.wto.org/UI/PublicMaintainRTAHome.aspx>. Accessed on 4 September 2024.

<sup>43</sup> WIPO (2024), *Science and Technology Cluster ranking 2024*, Cluster ranking The GII reveals the world’s top 100 science and technology (S&T) clusters and identifies the most S&T- intensive top global clusters. Available online at <https://www.wipo.int/en/web/global-innovation-index/2024/science-technology-clusters>. Accessed on 4 September 2024.

economies having science and technology clusters in the top 100 are China, the U.S., EU countries (Germany, France), India, Korea, the UK, Japan, Canada, Australia. These countries also participate in the most RTAs in the world. Since they are all the largest economies having considerable impacts on trading, it is evident that they focus on R&D activities to develop new technologies to establish and maintain their positions in the economic ranking. That leaves many unanswered questions to be examined and discussed. If the countries can determine the kind of RTAs or specific choices of RTAs facilitating their technology transfer and development the most efficiently, that may establish a new generation of RTAs or MRTAs responding to the requirements laying the foundation for new technologies development, implementation and commercial exploitation.

Although it is not simple to connect the effects of MRTAs, technology transfer and development and the choice of the IPRs protection regimes through them as well as through the previous RTAs, these agreements demonstrated the efforts of legislators to provide the framework with reference to the global IPRs protection mechanisms and encourage the collaboration of member states. Like the appraisal of the effects of the RTAs, the repercussions of these MRTAs may be measured by the increasing rate of number of patents, research papers and technology readiness of the ASEAN countries. However, the future research in this topic still requires more reliable and comprehensive data of FDI activities, tech transfer and development arising from both cross-border and domestic investments.

#### **4. Conclusion**

MRTAs represent a promising foundation for promoting sustainable growth of ASEAN Member States' economies, especially for its developing and least developed countries. The challenge of meeting each country's different technology capacity and absorbability narrows down over time. RTAs play important roles to facilitate technology development through the mechanism of technology transfer and spillover as well as the boost of technology enhancement. MRTAs were designed to maximise the effectiveness of each of them. However, the choice of using MRTA or RTA protections is mainly subject to the tariff rates and the crucial elements of these trading agreements aiming to foster the technology development still need time and domestic harmonisation and law enforcement to prove their importance and practical influences, especially in developing and least developed States parties.

## Appendix I - Figures and Tables

Figure 1. Patent applications of residents

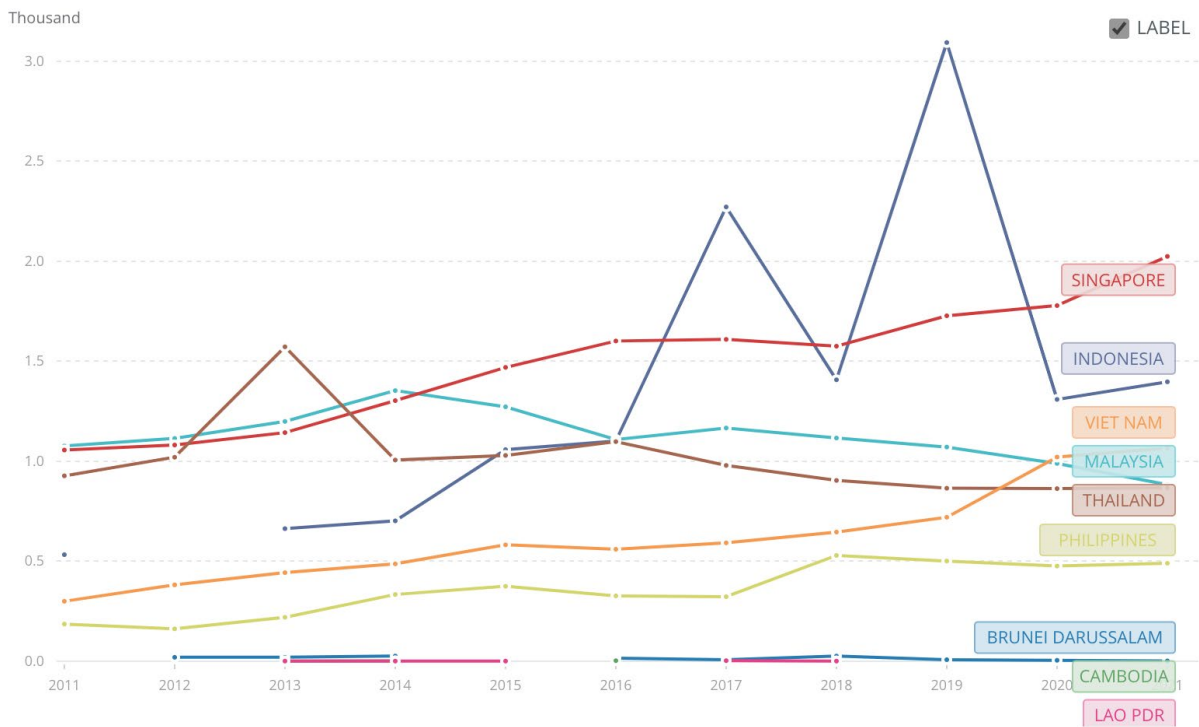


Figure 2. Patent applications of non-residents

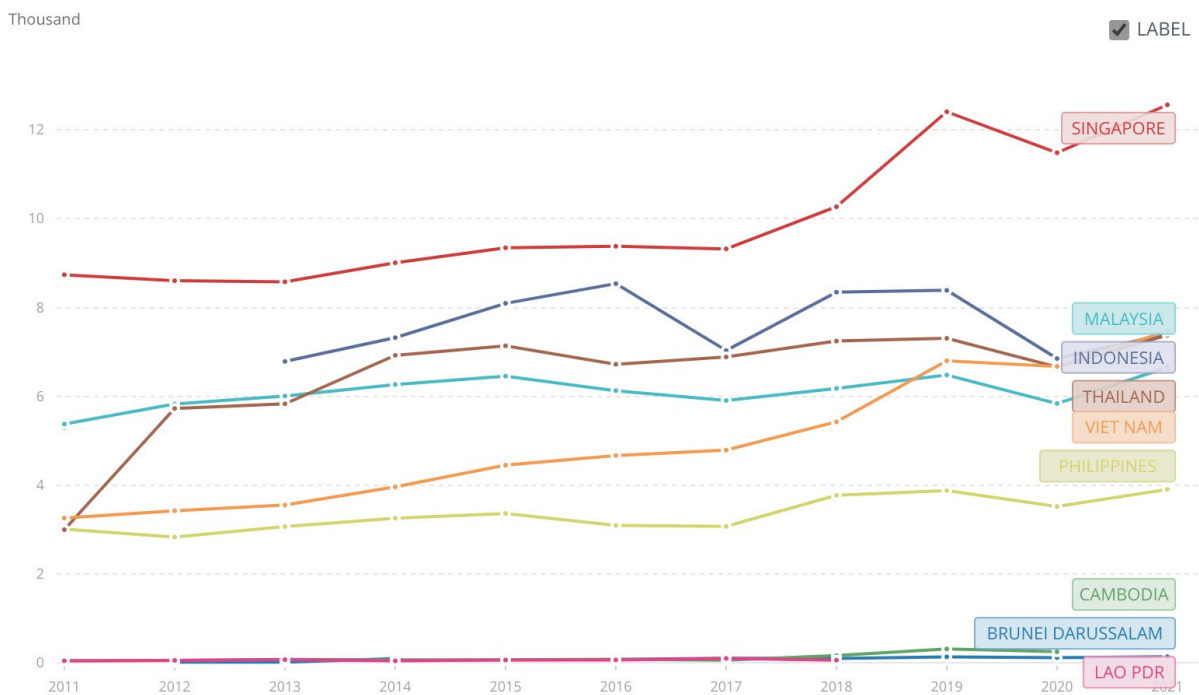


Figure 3. Trademark applications of residents

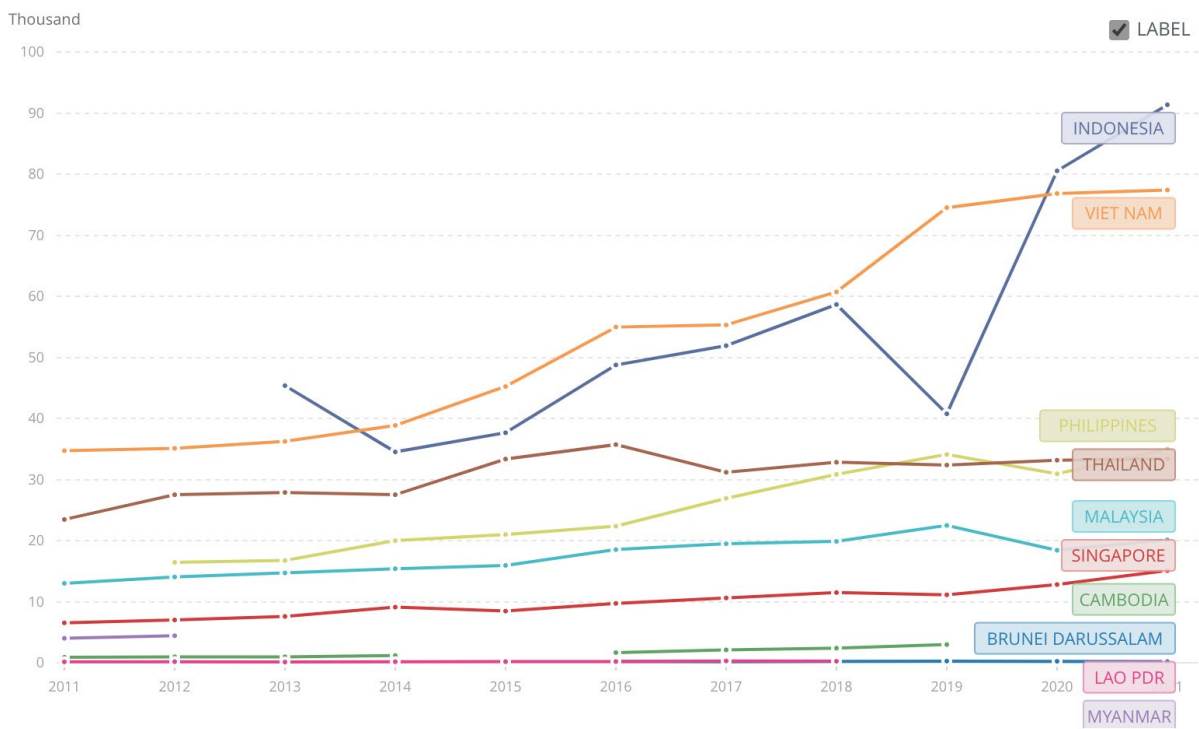


Figure 4. Trademark applications of non-residents

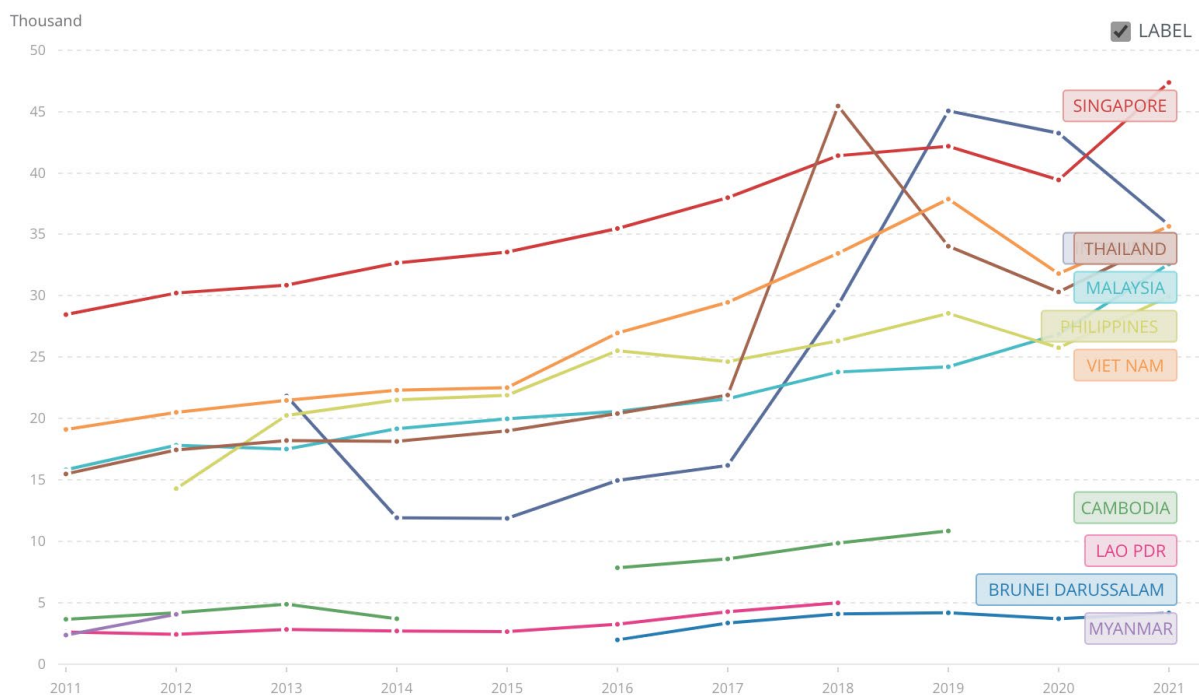




Figure 5. Industrial design applications of residents

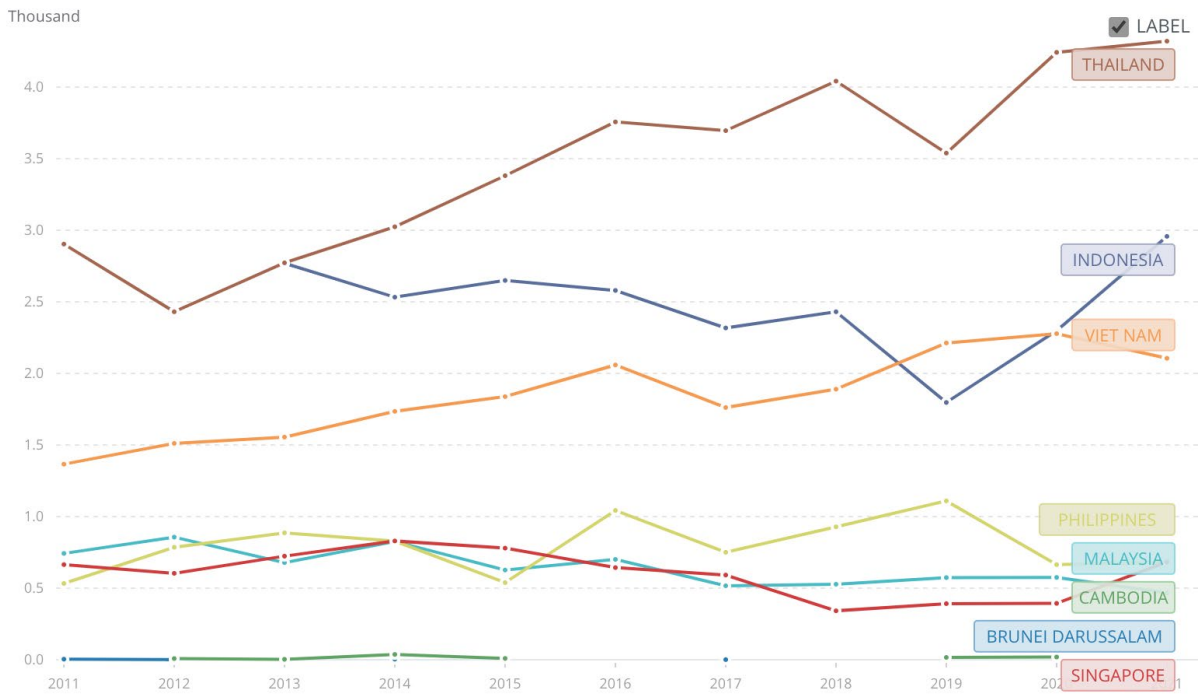


Figure 6. Industrial design applications of non-residents

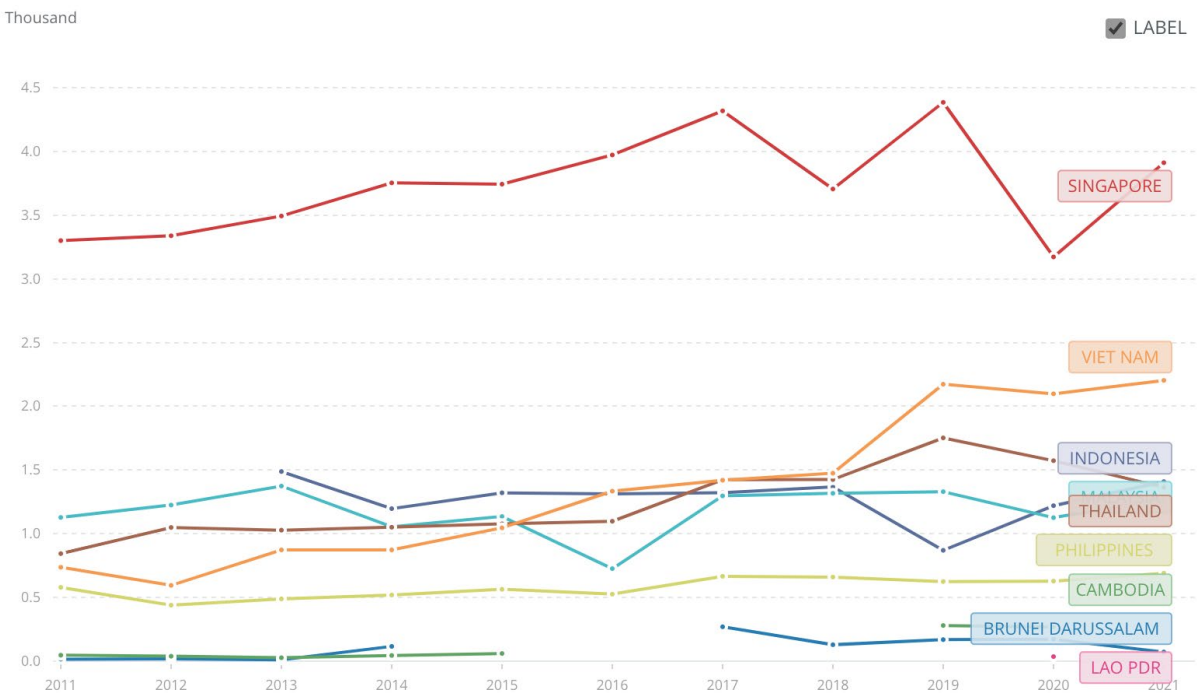




Figure 7. Scientific and technical journal articles

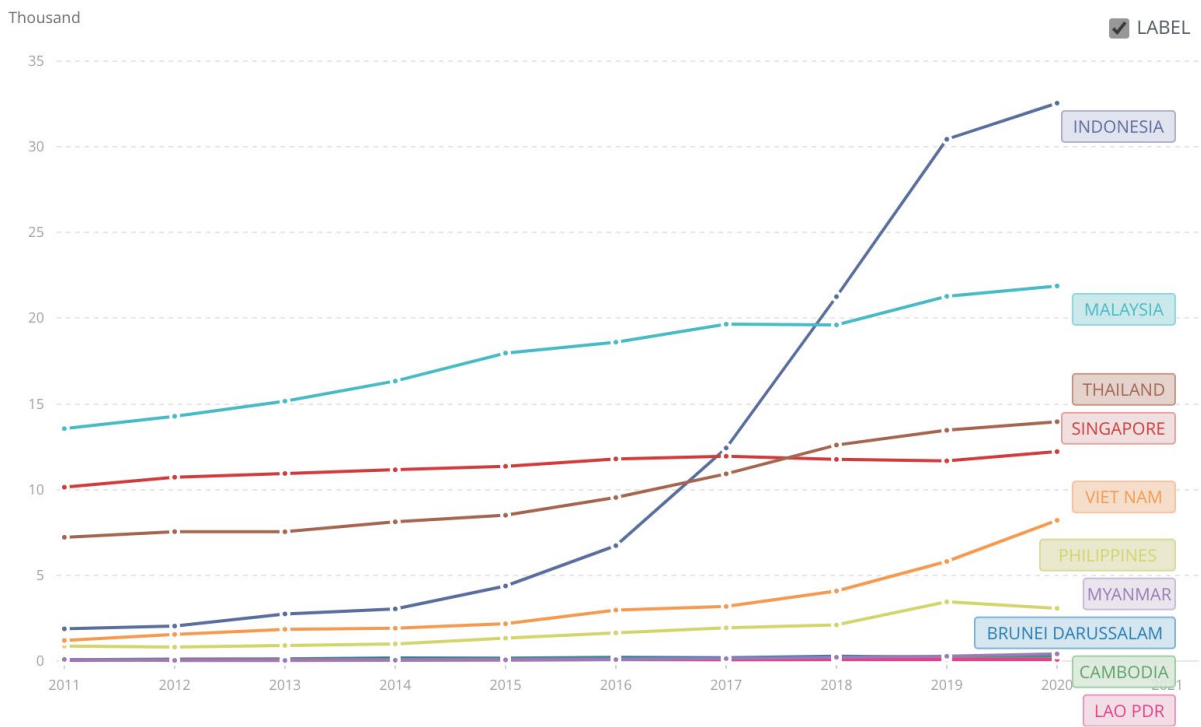


Figure 8. Time required to register property (days)

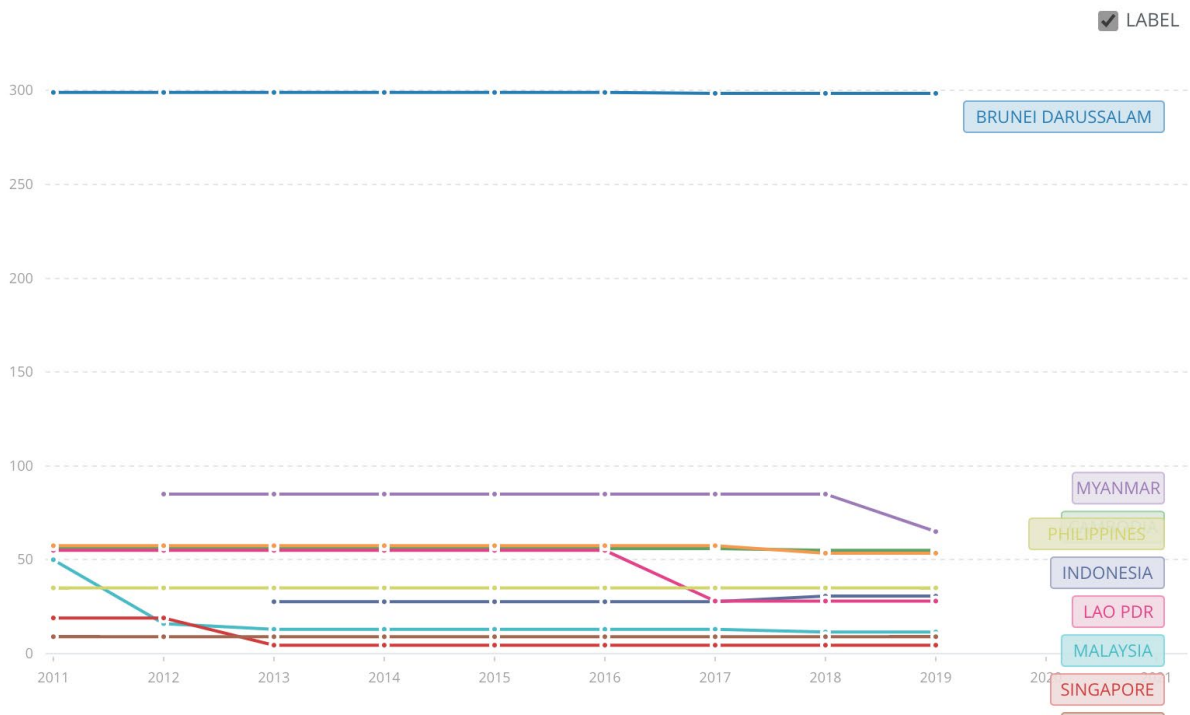


Table 1. Industrial Property applications of each ASEAN Member State in 2021

Asean countries	Patent application 2021	Patent application 2021	Trademark application 2021	Trademark application 2021	Industrial design application 2021	Industrial design application 2021
	Residents	Non residents	Residents	Non residents	Residents	Non residents
<a href="#">Brunei Darussalam</a>	2	137	99	1792	N/A	42
<a href="#">Cambodia</a>	N/A	248	N/A	N/A (but total is 8692)	19	157
<a href="#">Indonesia</a>	1397	7403	87004	19275	2959	1409
<a href="#">Lao PDR</a>	1	58	389	1663	N/A	36
<a href="#">Malaysia</a>	883	6651	20124	20254	468	1271
<a href="#">Myanmar</a>	N/A	N/A	4422	4068	N/A	N/A
<a href="#">Philippines</a>	490	3903	24009	14760	682	690
<a href="#">Singapore</a>	2024	12566	8930	21717	469	2086
<a href="#">Thailand</a>	867	7375	26600	18513	4323	1364
<a href="#">Vietnam</a>	1066	7468	52926	16915	2029	1754

Figure 9. Frontier technology readiness overall index

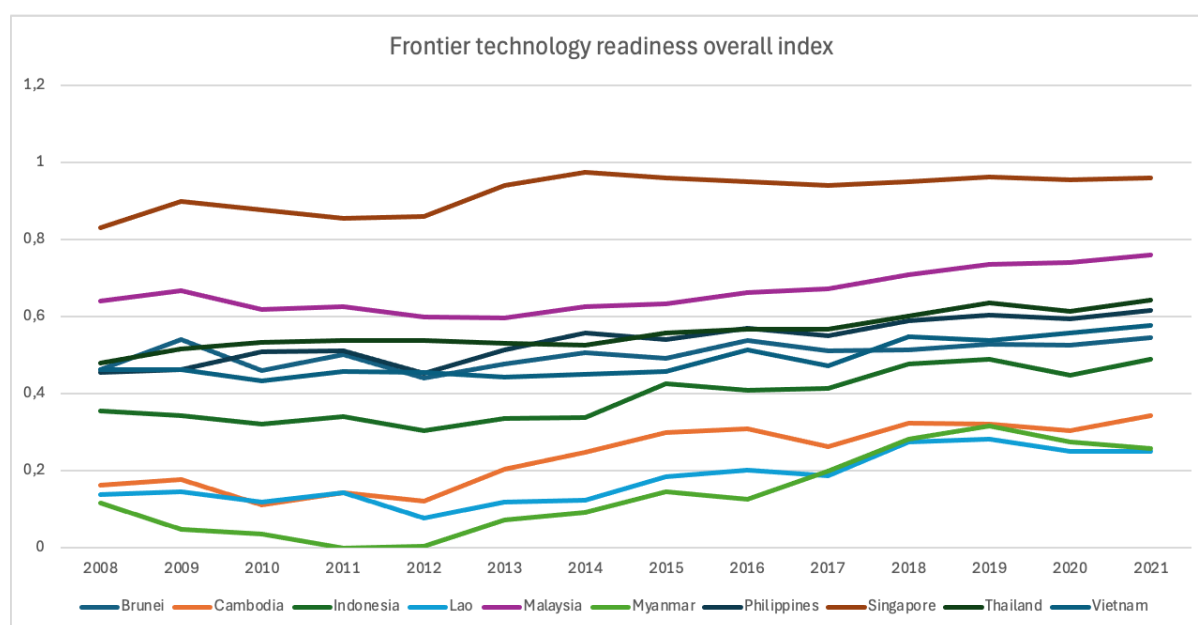


Table 2. Regional Trade Agreements (RTAs) and Mega-Regional Trade Agreements (MRTAs)

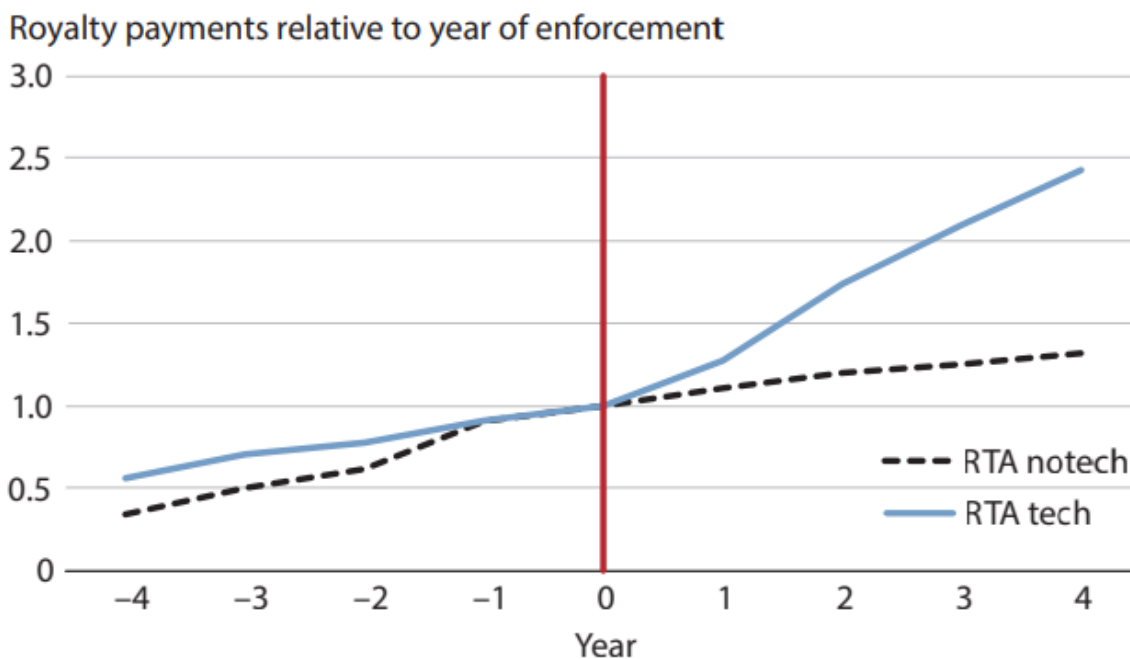
N°	(Mega) Regional Trade Agreements	Provisions Facilitating Technology
1	<a href="#">ASEAN Free Trade Area (AFTA)</a>	<p>IPRs:</p> <p>Others:</p> <p>Investment Liberalisation Provisions: MFN provision (Investment), National Treatment with regard to the entry of investment (establishment), Investment liberalisation</p> <p>Other Investment Provisions: Investment Protection, Investment Promotion, Investor to State Dispute Settlement (ISDS) included</p>
2	<a href="#">ASEAN Trade in Services Agreement (ATISA)</a>	<p>Absence of provision on IPRs</p> <p>Others:</p> <p>Competition</p> <p>Other Investment Provisions: Investment Protection, Investor to State Dispute Settlement (ISDS) included</p>
3	<a href="#">People's Republic of China (ACFTA)</a>	<p>IPRs:</p> <p>Others:</p> <p>E-Commerce</p> <p>Investment Liberalisation Provisions: MFN provision (Investment), National Treatment with regard to the entry of investment (establishment), Investment liberalisation</p> <p>Other Investment Provisions: Investment Protection, Investment Promotion, Investor to State Dispute Settlement (ISDS) included</p>
4	<a href="#">Hong Kong, China (AHKFTA)</a>	<p>IPRs: Specifically reaffirms or incorporates WTO TRIPS Agreement</p> <p>Others:</p> <p>Investment Liberalisation Provisions: MFN provision (Investment), National Treatment with regard to the entry of investment (establishment), Investment liberalisation</p> <p>Other Investment Provisions: Investment Protection, Investment Promotion</p>

5	<a href="#">Republic of Korea (AKFTA)</a>	IPRs Others: Investment Liberalisation Provisions: MFN provision (Investment), National Treatment with regard to the entry of investment (establishment), Investment liberalisation Other Investment Provisions: Investment Protection, Investor to State Dispute Settlement (ISDS) included
6	<a href="#">Japan (AJCEP)</a>	IPRs Others: Other Investment Provisions: Investment Promotion Competition
7	<a href="#">India (AIFTA)</a>	Absence of provision on IPRs Others: Investment Liberalisation Provisions: National Treatment with regard to the entry of investment (establishment), Investment liberalisation Other Investment Provisions: Investment Protection, Investment Promotion, Investor to State Dispute Settlement (ISDS) included
8	<a href="#">Australia and New Zealand (AANZFTA)</a>	IPR: Specifically reaffirms or incorporates WTO TRIPS Agreement, Copyrights and neighbouring rights, Patent, Trademarks, Geographical Indications (GIs), Traditional Knowledge, Enforcement Others: Investment Liberalisation Provisions: National Treatment with regard to the entry of investment (establishment), Investment liberalisation. Other Investment Provisions: Investment Protection, Investment Promotion, Investor to State Dispute Settlement (ISDS). E-Commerce: Consumer protection provisions, Paperless trading or e-signatures, Dispute Settlement not applicable (E-Commerce)
9	<a href="#">Regional Comprehensive Economic Partnership (RCEP)</a>	IPRs: protection of intellectual property rights beyond the level of the WTO Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS Agreement) Others: Investment: protection, liberalisation, promotion, and facilitation. MFN clause and commitments on

		<p>the prohibition of performance requirements that go beyond their multilateral obligations under the WTO Trade Related Investment Measures (TRIMS)</p> <p>E-commerce: trade administration and processes by using electronic means, personal data protection, location of computing facilities and cross-border transfer</p> <p>Competition: obligations to adopt or maintain domestic laws and regulations to proscribe misleading practices, or false or misleading descriptions in trade; improving awareness of, and access to, consumer redress mechanisms; and cooperation related to consumer protection.</p> <p>Government Procurement</p>
10	<p><a href="#"><u>Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP)</u></a></p>	<p>IPR: Specifically reaffirms or incorporates WTO TRIPS Agreement, Copyrights and neighbouring rights, Patent, Trademarks, Industrial Designs, Layout-Designs (topographies) of integrated circuits, Geographical Indications (GIs), Traditional Knowledge, Enforcement</p> <p>Government procurement</p> <p>Competition: Adopts or maintains competition law</p> <p>E-Commerce: Customs duty exemption for Digital Products Transmitted Electronically; Internal taxes permitted for digital products; Transfer of source code prohibited; Location requirements for computing facilities prohibited, Consumer protection provisions, Paperless trading or e-signatures, Dispute Settlement not applicable (E-Commerce)</p> <p>Investment Liberalisation Provisions: MFN provision (Investment), National Treatment with regard to the entry of investment (establishment), Investment liberalisation</p> <p>Other Investment Provisions: Investment Protection, Investor to State Dispute Settlement (ISDS) included</p>

Figure 10: Evolution of Royalty Payments for Technology Transfer following the RTAs

## The Evolution of Technology Transfer Following Regional Trade Agreements



NOTE: RTA notech, RTAs without IP provisions; RTA tech, RTAs with IP provisions.

SOURCE: Santacreu (2021a).

Table 3. IPRs provisions in the MRTAs

	Relevant Provision	RCEP	Trans-Pacific Partnership
	Note relevant provision(s) of treaty		
prov_01	Accession/Ratification to Existing Int'l IP Agreements		
prov_02	Patent Cooperation Treaty (1979)	Art. 11.9.1	Art. 18.7.1
prov_03	Paris Convention	Art. 11.9.1	Art. 18.7.1
prov_04	Berne Convention	Art. 11.9.1	Art. 18.7.1
prov_05	Madrid Protocol	Art. 11.9.1	Art. 18.7.2
prov_06	Budapest Treaty	Art. 11.9.2	Art. 18.7.2
prov_07	Singapore Treaty	Art. 11.9.3	Art. 18.7.2
prov_08	UPOV Convention 1991	Art. 11.9.3	Art. 18.7.2
prov_09	WIPO Copyright Treaty	Art. 11.9.1	Art. 18.7.2

prov_10	WIPO Performances and Phonograms Treaty	Art. 11.9.1	Art. 18.7.2
prov_11	Patent Law Treaty (2000)		Art. 18.14
prov_12	Hague Agreement Concerning the International Registration of Industrial Designs (1999)	Art. 11.9.3	Art. 18.56
prov_13	Protocol Amending the TRIPS Agreement (2005)		Art. 18.6.2
prov_14	Rome Convention (1961)	Art. 11.9.3	
prov_15	Convention Relating to the Distribution of Programme-Carrying Signals Transmitted by Satellite (1974)		
prov_16	Trademark Law Treaty (1994)		
prov_17	Incorporation of Existing Int'l IP Agreements in its (Near) Entirety		
prov_18	Incorporates/reaffirms TRIPS Agreement	Art. 11.8	
prov_19	Incorporates/reaffirms other designated multilateral IP agreement (specify which)		
prov_20	Incorporates/reaffirms all multilateral agreements to which both parties are a party (general obligation)		
prov_21	National Treatment		
prov_22	Requires national treatment, except for judicial & administrative procedures & as provided in WIPO multilateral agreements	Art. 11.7	Art. 18.1
prov_23	Requires national treatment, except for judicial & administrative procedures & as provided in TRIPS Agreement	Art. 11.7	Art. 18.1
prov_24	Exhaustion		
prov_25	Requires national exhaustion		
prov_26	Preserves flexibility for each country to determine its own exhaustion scheme	Art. 11.6	Art. 18.11
prov_27	Transparency		
prov_28	Trademark registrations shall be made available to the public	Art. 11.22.2(b)	Art. 18.9.3; Art. 18.24
prov_29	Geographical indications registrations shall be made available to the public		Art. 18.9.3
prov_30	Industrial design registrations shall be made available to the public		Art. 18.9.3



prov_31	New plant variety registrations shall be made available to the public		Art. 18.9.3
prov_32	Patent applications, filings, and/or grants shall be made available to the public		Art. 18.9.2
prov_33	Make all relevant IPR laws, regulations, administrative procedures, etc. available to the public	Art. 11.30.1, 11.34	Art. 18.9.1
prov_34	Make all relevant IPR laws, regulations, administrative procedures, etc. available on the internet	Art. 11.53.2	Art. 18.9.1
prov_35	Make available all info concerning IPR applications available on the internet		Art. 18.9.1
prov_36	Trademarks [TMs]		
prov_37	Prohibits enacting a requirement that a TM must be visually perceptible	Art. 11.19	Art. 18.18
prov_38	Stipulates types of signs that must be eligible for TM protection	Art. 11.19	Art. 18.18
prov_39	Provide TMs to include collective and certification marks	Art. 11.20	Art. 18.19
prov_40	Requires that TM owner be given exclusive right to prevent 3rd party from using identical or similar signs resulting in likelihood of confusion	Art. 11.23	Art. 18.20
prov_41	Provide limited exceptions to TM rights conferred for fair use, etc.	Art. 11.24	Art. 18.21
prov_42	Prohibits enacting a requirement that a TM must already be registered elsewhere to be considered "well-known"	Art. 11.26.1	Art. 18.22.1
prov_43	Prohibits enacting a requirement that a TM must be recognized or registered as a well-known mark elsewhere to be considered "well-known"	Art. 11.26.1	Art. 18.22.1
prov_44	Recognizes the Joint Recommendation Concerning Provisions on the Protection of Well-Known Marks	Art. 11.26.2	Art. 18.22.3
prov_45	Provide appropriate measures to refuse application or cancel the registration of a TM that is similar or identical to a well-known mark	Art. 11.26.1	Art. 18.22.5
prov_46	Stipulates procedural aspects for the examination &/or opposition of a TM application	Art. 11.22.1	Art. 18.23
prov_47	Stipulates procedural aspects for seeking cancellation of a registered TM	Art. 11.22.1	Art. 18.23

prov_48	Requires electronic TM system	Art. 11.22.1	Art. 18.24
prov_49	Requires TM classification system be consistent with Nice Classification	Art. 11.21	Art. 18.25
prov_50	Provides minimum term of protection for TMs		Art. 18.26
prov_51	Prohibits requiring recordal of a TM licence to establish licence validity or as a condition for use		Art. 18.27
prov_52	Geographical Indications [GIs]		
prov_53	Designates list of GIs subject to protection by both Parties, subject to limited exceptions		
prov_54	Stipulates that GIs can be registered and protected through a TM system	Art. 11.20	Art. 18.19
prov_55	Stipulates procedural aspects for the examination &/or opposition of a GI application	Art. 11.31	Art. 18.31-2
prov_56	Stipulates procedural aspects for seeking cancellation of a registered GI	Art. 11.31	Art. 18.31-2
prov_57	Requires refusal to register and/or invalidation of a TM that corresponds to a protected GI	Art. 11.31	
prov_58	Designates that any parties meeting a particular specification may use a GI without registering independently		
prov_59	Stipulates the scope of protection for a GI		
prov_60	Domain Names		
prov_61	Requires procedure based on ICANN or similarly modelled to settle disputes concerning country-code, top-level domain names		Art. 18.28
prov_62	Country Names		
prov_63	Requires provision of legal means to prevent commercial use of country name that misleads consumers	Art. 11.57	Art. 18.29
prov_64	Patents		
prov_65	Requires patents be made available along the lines of the three-step test	Art. 11.36	Art 18.37.1
prov_66	Requires patent be made available for new uses of a known product		Art 18.37.2
prov_67	Requires patent be made available for new methods of a known product		Art 18.37.2

prov_68	Requires patent be made available for new processes of a known product		Art 18.37.2
prov_69	Stipulates grace period for info in public disclosures that should be disregarded when considering patent application	Art. 11.42	Art. 18.38
prov_70	Establishes a set of permissible exclusions from patentability	Art. 11.36	Art. 18.37.4
prov_71	Stipulates permissible reasons for patent revocation	Art. 11.48	Art. 18.39
prov_72	Stipulates rules governing patent filings		Art. 18.42
prov_73	Requires that a patent applicant be given opportunity to make amendments, corrections and observations	Art. 11. 41	Art. 18.43
prov_74	Requires publication of information concerning pending patent applications	Art. 11.48	Art. 18.44-18.45
prov_75	Requires patent term adjustment be given for unreasonable delays by granting authority		Art. 18.46
prov_76	Requires a period of sui generis protection for patents	Art. 11.36.3	Art. 18.48
prov_77	Includes rules governing patent linkage		
prov_78	Requires cooperation to enhance mutual utilisation of search and examination results for patent applications	Art. 11.76.6	Art. 18.13-18.14
prov_79	Data Protection / Protection of Undisclosed Information		
prov_80	Provides minimum term of protection for undisclosed test or other data for a new agricultural chemical		Art. 18.47.1
prov_81	Provides minimum term of protection for undisclosed test or other data for a new pharmaceutical product		Art. 18.50.1
prov_82	Provides minimum term of protection for new clinical info for a new indication/formulation/administration method of a previously approved pharmaceutical product		Art. 18.50.2
prov_83	Provides minimum term of protection for undisclosed test or other data for a pharmaceutical product containing a chemical entity not previously approved by either party		Art. 18.50.2
prov_84	Provides minimum term of protection for undisclosed test or other data for a new pharmaceutical product that is or contains a biologic		Art. 18.51
prov_85	Industrial Designs		

prov_86	Requires system for protection of industrial designs	Art. 11.49	Art. 18.55.1
prov_87	Requires protection of industrial designs that are embodied as part of an article	Art. 11.49.5	Art. 18.55.1
prov_88	Provides minimum term of protection		Art. 18.55.2
prov_89	Seek to improve industrial design systems		Art. 18.56
prov_90	Copyright and Related Rights		
prov_91	Requires provision of exclusive right of reproduction	Art. 11.10	Art. 18.58
prov_92	Requires provision of exclusive right of communication to the public	Art. 11.10	Art. 18.59
prov_93	Requires provision of exclusive right of distribution	Art. 11.12.2	Art. 18.60
prov_94	Stipulates that there is no hierarchy between author & performer/producer		Art. 18.61
prov_95	Requires provision to performers of unfixed performance the right to authorise or prohibit its broadcast	Art. 11.12	Art. 18.62.2
prov_96	Requires provision to performers of unfixed performance the right to authorise or prohibit its fixation	Art. 11.12	Art. 18.62.2
prov_97	Requires provision to performers and producers the exclusive right to authorise or prohibit its broadcast or other public communication by wire or wireless means		Art. 18.62.2
prov_98	Provides for minimum copyright term of protection		Art. 18.63
prov_99	Includes provision that parties endeavour to seek balance for legitimate public purposes	Art. 11.18	Art. 18.66
prov_100	Includes provision that parties endeavour to seek balance to ensure access to published works for persons who are blind / visually impaired	Art. 11.18.3	Art. 18.66
prov_101	Requires protection against persons seeking to circumvent technological protection measures	Art. 11.14	Art. 18.68
prov_102	Requires protection against persons altering rights management information	Art. 11.15	Art. 18.69
prov_103	Requires protection against persons who distribute, import, make available product with altered rights management info		Art. 18.69
prov_104	Stipulates practices to be followed by collective management organisations	Art. 11.13	Art. 18.70
prov_105	Biodiversity & Traditional Knowledge		

prov_106	Recognizes importance of biodiversity, including sovereignty to determine conditions of access to resources		
prov_107	Recognizes the importance of traditional knowledge, and reiterates commitment to preserve and protect	Art. 11.53	Art. 18.16
prov_108	Enforcement		
prov_109	Provides for presumption of ownership or authorship	Art. 11.58	Art. 18.72.1
prov_110	Requires final judicial decisions & administrative rulings be in writing and published/made available to public	Art. 11.77	Art. 18.73.1
prov_111	Requires publication of info/statistics on IPR enforcement	Art. 11.77	Art. 18.73.2-18.73.2
prov_112	Stipulates that judicial authorities shall have authority to order injunctive relief		Art. 18.74.2
prov_113	Stipulates that judicial authorities shall have authority to order adequate compensation for injury/damages/lost profits	Art. 11.60	Art. 18.74.3
prov_114	Stipulates that judicial authorities shall have authority to order production of evidence	Art. 11.64	Art. 18.74.13
prov_115	Establishes right of information, which stipulates that judicial authorities shall have the authority to order the alleged infringer to provide relevant information to judicial authority and/or right holder	Art. 11.64	Art. 18.74.13
prov_116	Requires steps to be taken for provisional measures related to alleged infringement	Art. 11.64	Art. 18.75
prov_117	Requires measures to be taken for preserving evidence related to alleged infringement		
prov_118	Requires that border authorities must allow for application by IPR holder to detain & suspend the release of any imported good suspected of being counterfeit or pirated		Art. 18.76.1
prov_119	Stipulates that border authorities shall have authority to order right holder to provide a reasonable security or equivalent assurance	Art. 11.67	Art. 18.76.3
prov_120	Requires that border authorities shall have ex officio authority to detain suspected counterfeit or pirated goods	Art. 11.69	Art. 18.76.5-18.76.6
prov_121	Stipulates that border authorities shall have authority to order destruction of infringing goods	Art. 11.62	Art. 18.76.7

prov_122	Stipulates that competent authorities shall have authority to impose administrative penalties where a Party imposes administrative procedures at the border		Art. 18.76.6
prov_123	Requires that infringing goods, when not destroyed, must be disposed of outside the channels of commerce, other than in exceptional circumstances	Art. 11.62	Art. 18.76.7
prov_124	Requires parties to provide for criminal procedures & penalties for wilful TM counterfeiting on a commercial scale	Art. 11.74	Art. 18.77.1
prov_125	Requires parties to provide for criminal procedures & penalties for wilful copyright or related rights piracy on a commercial scale	Art. 11.74	Art. 18.77.1
prov_126	Requires parties to provide for criminal procedures & penalties for unauthorised disclosure/misappropriation of a trade secret		Art. 18.78.2
prov_127	Requires parties to make it a criminal offence to unlawfully decode an encrypted program-carrying satellite signal		Art. 18.79
prov_128	Requires parties to enforce protection of GIs through administrative/legal proceedings, including at customs		
prov_129	Provides that gov't agencies must use non-infringing computer software	Art. 11.17	Art. 18.80.2
prov_130	Requires ISP liability & safe harbour system similar to DMCA		Art. 18.82
prov_131	Requires cooperation on border measures		
prov_132	Other		
prov_133	Establishes a sub-committee to monitor issues related to IPR chapter		
prov_134	Establishes cooperation mechanism to exchange info related to IPR	Art. 11.76	Art. 18.13
prov_135	Establishes a regional administration for IPR		
prov_136	Requires one party to align its IP laws to that of the other party (which is a regional union)		

Figure 11. Map of participation of goods and services RTAs

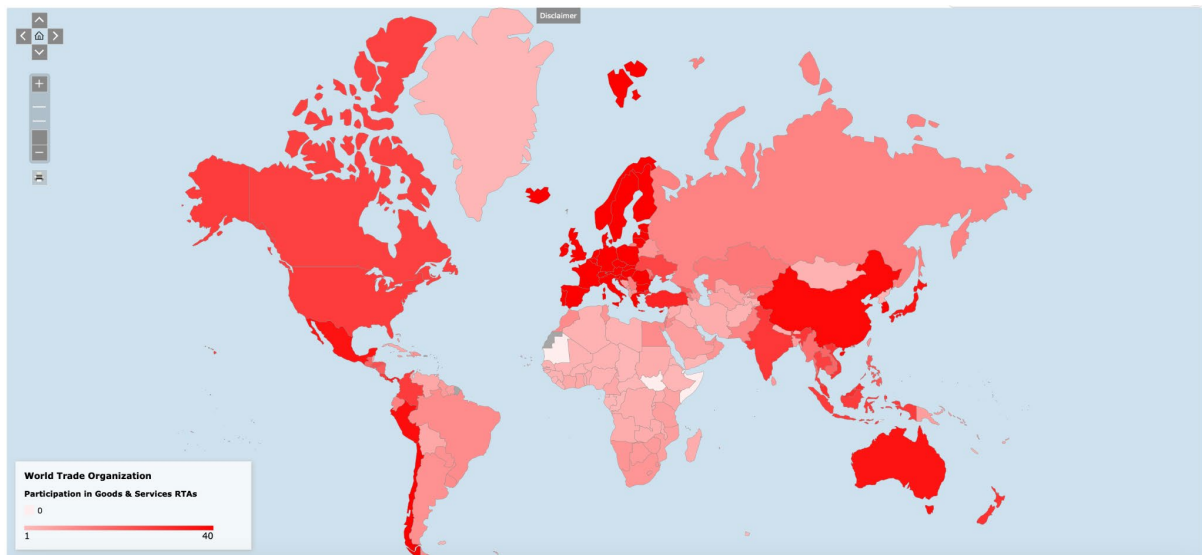
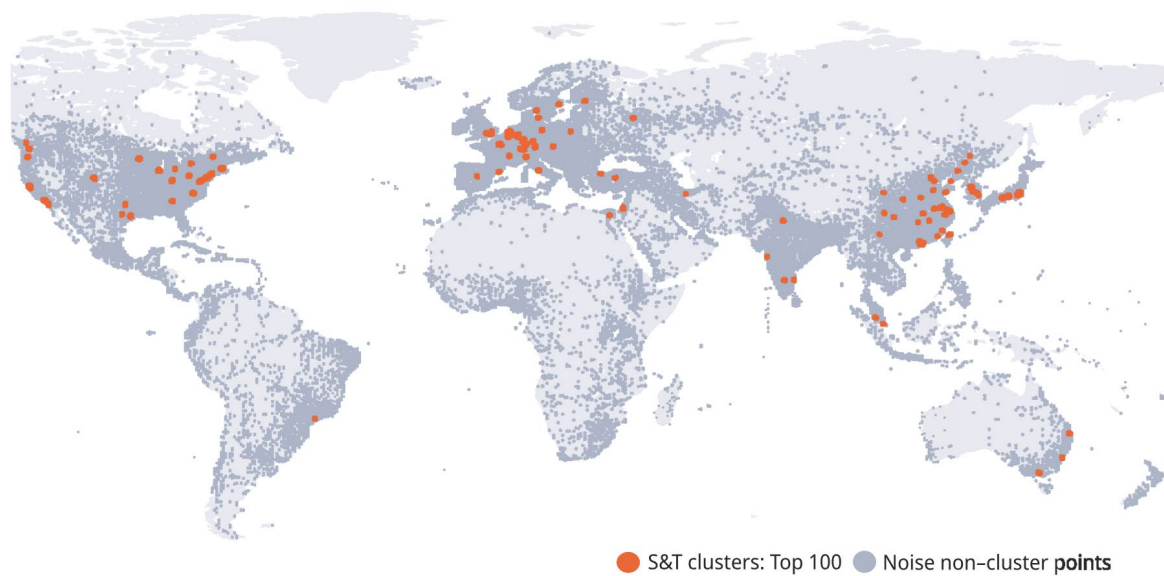


Figure 12. Map 1 Top 100 clusters worldwide, 2024. Source: WIPO Statistics Database, April 2024.



Note: Noise refers to all inventor/author locations not classified as being within a cluster.



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