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## Article

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# Dynamics of Bilateral Digital Trade: The Case of a Korea–EU Digital Partnership

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**Abstract:** The rapid growth of digital trade has had a profound impact on global economies, revolutionizing trading practices and facilitating trade expansion. The purpose of this paper is to explore the digital partnership between Korea and the European Union (EU) and its implications for their shared agenda in digital trade to theorize the dynamics of digital trade. A case study method is used to explore trade between Korea and the EU with in-depth descriptive analysis. Digital trade-flow statistics were analyzed to develop the case for Korea and EU digital trade and derive implications for both countries. The findings were generalized by discussing the relevant literature and data from other countries to identify the wider implications. The analysis was focused on the areas of information and communication technology and e-commerce. The findings suggest uncovered trade imbalances, such as Korea's surplus of ICT goods exports and the EU's dominant position in online trade. There is an influence of supply chain dynamics, specifically the presence of Korean manufacturers' production units in countries like Vietnam, and the same dynamics have shaped Korea's actual place in the supply of ICT goods to the European market. While the digital partnership was established to align regulatory frameworks and foster trust, transparency, and harmonization in the digital domain, it has failed to adequately reflect the importance of digital trade. Although both sides are motivated to collaborate on the harmonization of digital trade rules, there have been instances where the partners' interests diverge. It is concluded that some political and economic factors may hinder the effectiveness of the digital partnership, unless concrete measures that go beyond traditional bilateral policymaking approaches are implemented. It is therefore recommended to emphasize the need to enhance the efficacy of the digital partnership by taking bolder actions to develop digital trade.

**Keywords:** digital trade; digital partnership; online trade

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## 1. Background

The transformation to digitalized trade is one of the most prominent trends in today's global economy. This transformation accelerates trade expansion, revolutionizes trading practices and the types of products exchanged, lowers costs, and facilitates broader participation of small- and medium-sized enterprises (SMEs) in international trade (WTO 2018; López González and Ferencz 2018). Consequently, digital trade plays a vital role in the overall digital transition of economies towards development.

By definition, “digitalization is changing what and how we trade” (López González and Jouanjean 2017, p. 24). The scope of digital trade is, however, wide, and the definition of digital trade remains fluid due to the rapid ever-evolving nature of technology and trading platforms. Presently, there seems to be a general consensus to accept the OECD's definition of digital trade, which encompasses digitally enabled transactions involving the trade of goods and services. The goods and services can be delivered either digitally or physically, and may involve consumers, firms, and governments in the digital trade ecosystem.<sup>1</sup> Digital trade is also referred to as e-commerce or online trading.

Global digital trade has experienced substantial growth and, in absolute terms, reached USD 5.1 trillion in 2018 (López González et al. 2023). Furthermore, the rate of growth in digital trade has consistently exceeded that of non-digital trade by at least 30% (Jaax et al. 2023). Thus, there is a high likelihood that digital trade will continue to occupy a larger share of the market than conventional trade.

In spite of the growing importance of digitally enabled trade among various nations, there have been few discussions on (i) exploring the dynamics of such a bilateral trades, and (ii) implications of the same for their common agenda, even though recent studies have emphasized the importance of research on digital trade (Burri and Polanco 2020; Fayyaz 2019; Ferracane et al. 2018; Lund and Manyika 2016; Rachel et al. 2021; Tarantilis et al. 2015). This paper, therefore, aimed to contribute to the ongoing discussions surrounding digital trade by analyzing trends in bilateral digital trade between Korea and the EU as a focal case, to understand and theorize about the dynamics of digital trade. In this study, we sought to understand how these trends align with the goals set forth in the ambitious digital partnership agreement reached in 2022 and discuss how the effectiveness of the partnership can be enhanced. This study is important because “as global data flows and digital technologies transform international trade, governments and regulators have to determine how to benefit from these developments while maintaining the integrity of their domestic regulations” (Meltzer 2019, p. 523).

Many governments are also intensifying their efforts to establish appropriate regulations at both the national and international levels, and studies in this area will have implications for the same. Some countries are coordinating their actions to prepare effectively for the digital transformation. For instance, the digital partnership between Korea and the EU serves as a case study of such collaborative efforts. Both Korea and the EU have established robust regulatory frameworks and standards for digital trade. By aligning their regulations and standards, Korea and the EU can promote trust, transparency, and harmonization in digital trade, facilitating cross-border transactions.

Both Korea and the EU are renowned for their technological advancements and innovation. They have strong digital infrastructure, widespread internet connectivity, and high rates of technology adoption among their populations. These factors create a conducive environment for digital trade to flourish. Additionally, both Korea and the EU possess strong comparative advantages in manufacturing industries, including sectors like electronics, automobiles, machinery, and pharmaceuticals, among others. The integration of digital technologies with traditional manufacturing processes is an important factor behind digital trade development, enabling the production and export of high-tech digital goods and also other services, thus challenging traditional regimes (Azmeah et al. 2020).

## 2. Methods and Material

This study was a single embedded case study of Korea and the EU. Case studies are popular for understanding single or multiple instances of a phenomenon in more depth (Yin 2017). This case study was established through four main sections. The first section estimated different components of digital trade between Korea and the EU. Drawing on data from sources such as UNCTAD, TiVA, and the Korean statistical service, it uncovered the imbalanced nature of these trade flows. The second section examined the digital partnership and the reasons for Korea and the EU to conclude it. It revealed that the current global environment, characterized by conflicts and disputes, encourages alliances in the digital space, and analyzed the limitations that hinder the progress of the digital partnerships. Section four discussed ways to enhance the impact of the partnership. The connected elements caused the emergence of a novel framework of theory development from a case study (Eisenhardt 1989).

### 3. Results

#### 3.1. Trends in Digital Trade between Korea and the EU

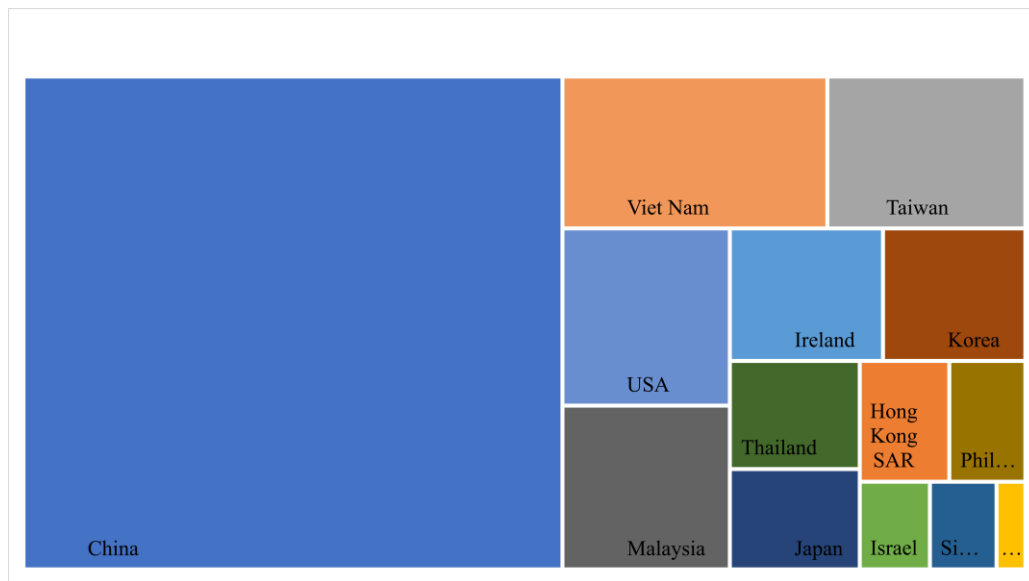
The analysis of digital trade flows is complicated by the lack of comprehensive and comparable statistics in this field (López González et al. 2023). However, the Digital Economy Report 2019 (UNCTAD 2019)<sup>2</sup> offers a valuable framework for understanding the key components of digital trade. The report identified three interconnected layers of the digital economy to enable digital trading. According to the report, digital trade is enabled through core infrastructural components. These include the trade of semiconductors, computers, telecommunication devices, and digital infrastructure such as the Internet and fiber-optic cables. These infrastructure elements are essential for the digital trade of products and services to occur between Korea and the EU. Secondly, the report identified the digital and information technology sectors which produce key products and services relying on core digital technologies, such as digital platforms, mobile applications, and payment services. These soft resources operationalize and support the overall running digital ecosystem. Thirdly, the digitalization of important service sectors like finance, media, tourism, and transportation play a significant role in the broader scope of digital trade (UNCTAD 2019).

Based on these considerations and the levels of the digital ecosystem, it is possible to identify several indicators that provide insights into the state of digital trade between Korea and the EU. These indicators include trade in information and communication technology (ICT) goods, e-commerce conducted through online platforms, and trade in ICT services, financial services, and others. However, due to data availability, this section will focus on discussing the trade in ICT goods and e-commerce.

Korea and the EU share a vital economic partnership, with Korea being the EU's 9th largest export destination for goods, and the EU serving as Korea's 3rd largest export market. The EU–Korea Free Trade Agreement (FTA) has established a solid foundation for economic cooperation and has become a strategic pillar of their partnership over the years (Chung and Lee 2019). Both parties play significant roles in global digital trade in distinct ways. Korea is a major producer of ICT products and has a rapidly growing e-commerce market, which ranks as the 6th largest in the world. On the other hand, the EU is a strong regulatory power, spearheading forward-looking laws and mechanisms to ensure the safety of people's data online. These contrasting strengths enable both countries to complement each other in their bilateral trade.

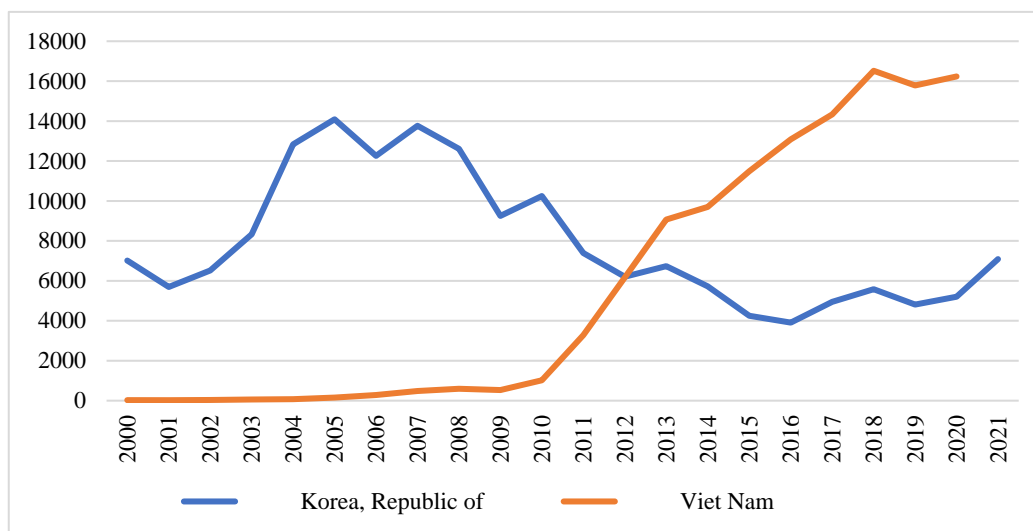
Digitalized trade has significant potential in terms of both size and growth. Traditional trade between Korea and the EU has also experienced steady but slow growth since the implementation of the KOREU FTA in 2011 (Grübler and Reiter 2021; European Commission 2020). As per the UNCTAD data for the last 10 years, the total trade volume increased from USD 94.5 billion in 2011 to USD 130 billion in 2021, marking a 37% total or a 3.7% p.a. increase. The trade in ICT goods between Korea and the EU reached USD 9.8 billion in 2021, with Korea maintaining a substantial surplus, as its exports to the EU amounted to USD 7.1 billion, while imports reached USD 2.7 billion. In 2021, Korea ranked as the 7th largest supplier of ICT goods to the EU, following China, Vietnam, Taiwan, the USA, Malaysia, and Ireland (Figure 1).

The relatively low volume of Korea's ICT shipments to the EU may appear surprisingly small considering Korea's position as one of the world's top electronics producers. However, there is a caveat to national-level data, as they are based on the country-of-origin rule and do not account for the international nature of manufacturing. It is important to consider that a significant portion of trade in global value chains is managed by multinational corporations. Korea is home to several major ICT manufacturers who have sophisticated systems of production dispersed across various jurisdictions. Therefore, Korea's actual participation in the EU's imports of ICT products could be more significant than what is shown in the country-level data. In other words, Korean electronics producers may supply ICT goods to the EU from production units located in countries other than Korea. In this context, Vietnam deserves closer examination. This point is elaborated to understand Korean digital trade in the context of production transferring to Vietnam.



**Figure 1.** EU sources of ICT imports. Source: constructed by authors based on (UNCTADstat n.d.).

As Figure 2 shows, the decline in Korea's ICT exports to the EU in the late 2000s coincided with a steady increase in Vietnam's exports of ICT products to the EU. In 2012, there was a turning point, where Vietnam's ICT exports surpassed Korea's in terms of value. By 2020, Vietnam was shipping four times the value of ICT products to the EU compared to Korea.



**Figure 2.** Korea and Vietnam ICT exports to the EU 2000–2021, USD million. Source: constructed by authors based on (UNCTADstat n.d.).

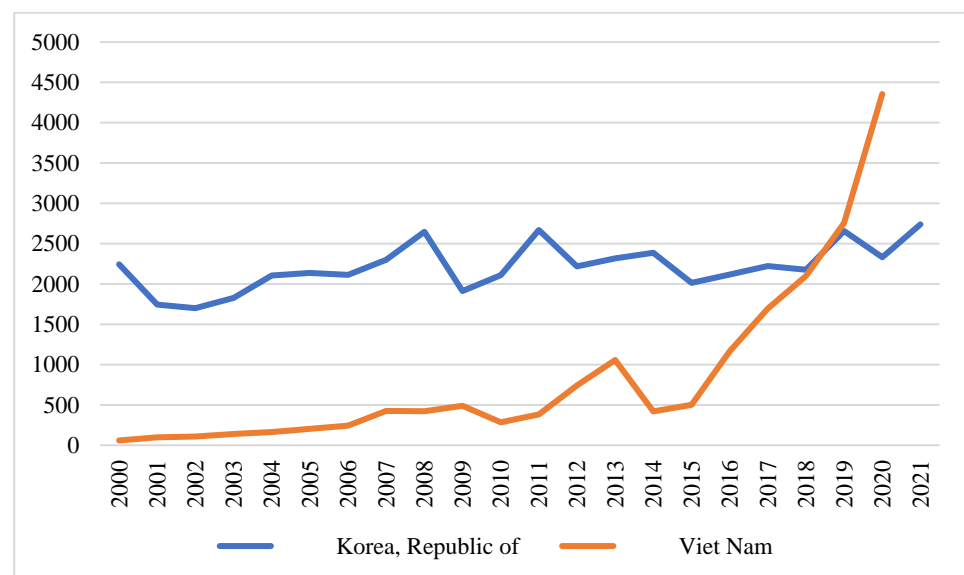
This change was not a coincidence. Korean electronics manufacturers began relocating from China after the Global Financial Crisis, primarily due to concerns over rising labor costs. Samsung Electronics, for instance, commenced production in Vietnam in 2009, and subsequently launched one of the largest manufacturing facilities in the country. Vietnam became a crucial manufacturing platform for a wide range of Samsung products, including smartphones, tablets, smartwatches, and basic mobile phones. As of June 2018, Samsung was producing 1 billion devices in Vietnam. The rise of Vietnam's electronics exports can be attributed to the influence of Korean conglomerates like Samsung.<sup>3</sup> The impact of Samsung on the Southeast Asian economy remains significant, with the company accounting

for 25% of Vietnam's total exports and 80% of its electronics exports in 2020<sup>4</sup>. Other Korean producers, such as SK Hynix<sup>5</sup>, have also established a presence in Vietnam and have the potential to export to the EU from there.

When considering this aspect of the global value chain in electronics, the actual volume of ICT goods shipped by Korean companies to the EU is considerably larger than what is reflected in macro-level statistical data at the national level. Consequently, Korea may rank as the 4th or even 3rd major source of ICT products for the EU, taking into account these supply chain dynamics.

The composition of Korea's ICT exports to the EU is heavily concentrated on electronic components, accounting for 60% of the total ICT shipment volume in 2021. The next most significant categories are computers and peripheral equipment (12.12%) and a miscellaneous category (12.26%). In relation to Vietnam, it is important to note that 92.5% of Vietnam's ICT exports to the EU in 2020 consisted of electronic components. These figures suggest that components produced by Korean manufacturers in Vietnam are being sent to assembly and manufacturing facilities located within the EU for the final stages of production, along with high numbers of assembled products. This hypothesis was supported by a recent study conducted by the Korean Institute of Economic Policy (KIEP). Their expert examined the impact of the KOREU FTA on Korea's exports to the EU and concluded that the FTA stimulated Korean exports to East European countries such as Hungary, Slovakia, and Poland, where Korean conglomerates have established factories for the European market.

In contrast, Korea's imports of ICT products from Europe have remained relatively unchanged over the past two decades (Figure 3). There was a slight increase in the imported value in 2021, but it is uncertain whether this indicates the start of an upward trend or not. The minimal change in import flows implies that, in real terms (adjusted for inflation), Korea's imports of ICT from the EU have stagnated.



**Figure 3.** Korea and Vietnam's import of ICT from the EU. Source: constructed by authors based on (UNCTADstat n.d.).

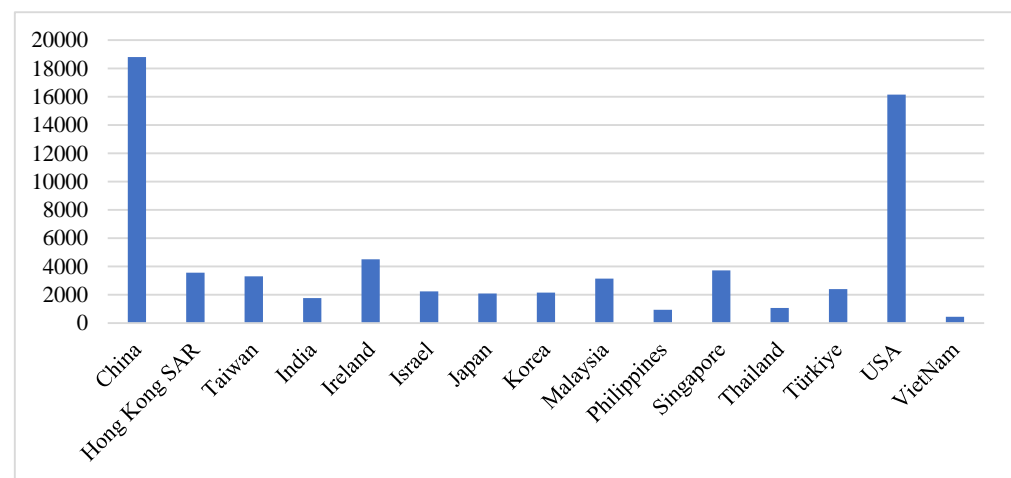
Unsurprisingly, Vietnam has experienced a significant increase in its imports of ICT products from the EU, particularly during the period of 2015–2020 (Figure 3). However, available data do not allow us to determine whether this growth was partially driven by Korean companies. Vietnam does not provide detailed trade data, and Korean multinationals do not disclose their component sources, as they often follow a vertically integrated production approach. Nevertheless, it is plausible that the presence of Samsung has influenced ICT imports from other countries, including the EU. Local Vietnamese manufacturers may



be attempting to enter the production sector, either as subcontractors for Samsung or in an effort to develop their own capabilities in this industry.

In the upcoming years, the significance of Vietnam within Samsung's value chain is expected to continue growing. Samsung is expanding its manufacturing of semiconductor parts in Vietnam and is currently constructing a research center in Hanoi.<sup>6</sup>

However, it is important to acknowledge that the growing relationship between Korean businesses and Vietnam may not necessarily result in a stronger trade relationship between Vietnam and the EU. Both Korea and Vietnam represent a small share of the EU's exports of ICT products. As illustrated in Figure 4, the majority of the EU's ICT exports in 2021 were directed towards China, the United States, Ireland, Singapore, Hong Kong, and Taiwan. These countries hold a more significant position as destinations for the EU's ICT exports.



**Figure 4.** EU's major destinations of ICT exports. Source: constructed by authors based on (UNCTADstat n.d.).

### 3.2. State of e-Commerce/Online Trade in Goods

Online trade in goods between Korea and the EU has undergone significant growth with certain asymmetries. According to Korean sources, the estimated volume of online trade between the two regions has reached 850 million euros<sup>7</sup>. This represents a substantial increase of 6.4 times compared to 2014, when data collection began. From 2016 to 2019, the growth rates ranged from 30% to 36%. However, the COVID-19 pandemic had an impact, with growth rates falling to 15.7% in 2020, 8.2% in 2021, and declining to negative figures in 2022 at  $-0.02\%$ . Nonetheless, as economies recover from the pandemic's adverse effects, there is a generally positive outlook for e-commerce.

The e-commerce trade flows between Korea and the EU exhibit an asymmetry, with more than 90% of the bilateral trade volume consisting of Korea's purchases from the EU. In 2022, Koreans purchased EUR 836.6 million worth of European goods through online platforms, while Korean sales amounted to a mere EUR 13.3 million. The COVID-19 pandemic appears to have impacted Korean sales to the EU more significantly than Korean purchases from the EU. In 2020, Korean sales were at EUR 30 million, which decreased to EUR 13.3 million in 2022. On the other hand, purchases increased from EUR 768.3 million to EUR 836.6 million. These differing dynamics may be explained by the varying income elasticities of the products being sold and purchased online.

According to the data presented in Table 1, clothing and fashion, as well as audio-visual equipment, account for 34.29% and 29.53% of Korean sales, respectively. In contrast, Korean purchases are predominantly focused on clothing and fashion, making up 63.38% of all online purchases in 2022. European clothing and fashion products typically belong to higher-priced categories, and demand for these products tends to occur among those with

higher income elasticity and therefore higher expected earnings in Korea. The literature suggests that if elasticity is a factor, the goods are more likely to be luxury items (Tarantilis et al. 2015). Additionally, despite increasing prices, reports have indicated that there was strong demand for upscale European brands in Korea during the pandemic, driven by revenge consumption and consumer preferences.

**Table 1.** Structure of Korea–EU online trade by category in 2022.

	Korean Sales	Korean Purchases
Computers and periphery	17.02%	0.19%
Home appliances and electronics	0.06%	3.53%
Software	0.00%	0.06%
Books	5.01%	0.85%
Office appliances	0.30%	0.16%
Audio, visual equipment	29.53%	0.14%
Clothing and fashion	34.29%	63.38%
Sports and leisure	3.50%	1.43%
Cosmetics	6.63%	4.94%
Children’s clothes	0.28%	0.56%
Food	0.08%	14.71%
Agricultural products	0.00%	0.00%
Lifestyle goods and goods for automobiles	0.29%	4.57%
Other	3.00%	5.49%

Source: Korea Statistical Information Service (2023). Retrieved from <https://kosis.kr> (accessed on 12 April 2023).

In 2022, Korean online sales to the EU accounted for approximately 1% of Korea’s total online sales. Korea’s imports from the EU represented 21% of all online imports by Korea during the same year. From Korea’s perspective, this is an unbalanced structure of bilateral trade that contributes to the overall trade deficit in the country’s trade with the EU. In 2021, the trade deficit stood at 2.5 billion USD.

Several observations regarding the state of Korea–EU digital trade can be made based on the discussion above:

- Trade volumes in major components of the digital trade between the partners are modest compared to the strategic level of cooperation.
- Korea’s exports of ICT goods to the EU have maintained a substantial surplus, while imports have remained relatively unchanged. The actual volumes of ICT goods shipped by Korean companies to the EU may be larger than reflected in national-level data due to the international nature of manufacturing.
- Korean companies may supply ICT goods to the EU from their production units located in countries other than Korea, emphasizing the importance of considering supply chain dynamics.
- Trade volumes in ICT are much larger than volumes of e-commerce, although the latter has shown a rapid pace of expansion.
- E-commerce trade flows between Korea and the EU exhibit an asymmetry, with Korea’s purchases from the EU dominating the bilateral trade volume. The COVID-19 pandemic had a more significant impact on Korean sales to the EU than Korean purchases from the EU.
- E-commerce imports from the EU are one of the contributors to Korea’s total trade deficit with EU; this is an important issue for Korea, which for many decades has pursued a mercantilist trade policy. Potentially, this deficit may diminish the appetite, from Korea’s side, to bring Korea–EU online trade to a new level if Korea does not see opportunities for counterbalance.



#### 4. Digital Partnership between Korea and the EU: Common and Divergent Interests

Digital trade will play a crucial role in shaping the future of economic relations between the EU and Korea. This potential could, however, be constrained by externalities such as excessive taxation. Therefore, bilateral trade must be addressed strategically to avoid the impact of such externalities. If not addressed through strategic and purposeful actions, digital trade may fall behind other dimensions of Korea–EU cooperation. To foster digital trade, both parties should harness the potential of the recently launched Digital Partnership. This section provides an overview of the key points in this partnership, including the driving forces behind it and its hindering factors.

The Digital Partnership between Korea and the EU was officially established on 28 November 2022. This agreement serves as a framework to enhance bilateral cooperation on digital technology-related issues. According to a communique released by Korea's Ministry of Science and ICT, under the partnership, Korea and the EU plan to join efforts on 11 topics, which include the following: Collaborative Research, Semiconductors, High Performance Computing (HPC) & Quantum Technologies, Cybersecurity & Trust, Beyond 5G/6G, Skills, Mobility & Digital inclusion, Artificial Intelligence, Online & Digital Platform Cooperation, Data-Related Laws and Systems, Digital Identity & Trust Services, and Digital Trade.<sup>8</sup> Additionally, the partners have agreed to organize a ROK–EU forum for semiconductor researchers to facilitate regular discussions on the latest research trends and design, while also establishing mechanisms to address supply chain disruptions.

Several key factors are driving the collaboration between Korea and the EU in the digital realm. Firstly, the escalating conflict between the US and China is reshaping international trade and trade governance (Hopewell 2020). The disruption of technological supply chains, which will be hard to avoid (Witt 2020), could adversely affect other dependent actors, like Korea and the EU. Secondly, security concerns and safety issues in the largely unregulated digital space present serious challenges that demand joint efforts. Thirdly, the rapid pace and concentrated nature of digital technology development can lead to a significant accumulation of competitive advantage in the hands of a limited number of countries. Joint collaboration can ensure mutually beneficial sharing of technologies.

The outlined reasons highlight why Korea and the EU are natural partners for cooperation, as both parties would bear substantial costs in the event of a US–China conflict<sup>9</sup>. Moreover, the proliferation of digital technology creates new vulnerabilities when data is misused, making it imperative for partners to join forces in a collective effort. Additionally, the extent to which the US is willing to share advanced technologies with its allies remains uncertain. Thus, it is crucial for Korea and the EU to take necessary action and prepare for potential risks to avoid growing dependency and insecurity.

In the current multipolar world order, alliances and partnerships are vital for policy-making, geopolitical longevity, and maintaining the balance of power in the digital realm. While the EU possesses strong credibility in enforcing rules beyond its borders, it requires support from other countries to establish global standards in emerging digital domains (Cervi 2022; Bradford 2015). Korea is a partner that shares many of the EU's concerns.

The rapid digitalization of international trade and its benefits has incentivized closer cooperation between the EU and Korea, prompting the formation of a partnership. Many believe that digitalizing trade will enhance efficiency, productivity, and inclusivity by providing more opportunities for small businesses to engage in international trade and streamline trade processes by reducing paperwork and disseminating technologies.

Considering the significance of issues around digital trade, it is surprising that the agreement's text only touches briefly on the topic of digital trade itself. Digital trade is explicitly mentioned when referring to paperless trading, data flow, and online consumer protection. However, the overall framing remains vague, calling for "deeper discussions" on the matter, and the need for a "set of digital trade principles."<sup>10</sup>

The limited treatment of digital trade in the Korea–EU Digital Partnership contrasts with the treatment of digital trade in cooperation with other countries. For example, the EU's approach to partnerships with India and the US includes bilateral councils on trade

and digital technologies<sup>11</sup>, with the purpose of establishing a direct link between the development of relevant technologies and their practical application. Korea has taken a proactive approach to advancing digital trade at the regional level<sup>12</sup>. A good example of such efforts is the RCEP (Regional Comprehensive Economic Partnership), which includes a chapter on digital trade. Additionally, Korea is active in promoting digital trade rules as part of the global digital agenda. The cautious approach to digital trade that both Korea and the EU have taken in the bilateral digital partnership might be a sign of divergent views on the matter.

### *One Partnership, Different Dreams?*

Within the realm of digital cooperation, the partnership between Korea and the EU showcases a blend of collaborative and competitive dynamics. Despite shared interests in the digital agenda, each side is propelled by their respective national priorities, a classic force behind outward policy actions according to realism theory. It is, however, not unusual that major economies such as the US and China, despite having political differences, realize the highest volume of trade (Gao 2018). Various factors influence competitiveness, including the pursuit of European digital autonomy, Korea's strategy to assert a stronger position as a regional and global rule maker, the US's active engagement with Korea on digital matters, and intra-regional integration.

The concept of European digital autonomy and sovereignty has gained significant prominence within the EU's digital strategy (Broeders et al. 2023), aligning with its broader pursuit of strategic autonomy (Tocci 2021). Initially, disagreement with the US on China, which was once regarded as a potential 5G technology provider for the European market, spurred the EU to actively seek collaborations with alternative partners, including Korea. Disruptions in semiconductor supplies during the COVID-19 lockdowns exposed the vulnerability and excessive reliance of the EU on a limited number of sources for digital technologies. Consequently, efforts to fortify supply chain security have been reinvigorated and intensified by the EU. As part of this strategy, the EU aims to capture a minimum of 20% of global chip production by 2030, up from their current 10%.<sup>13</sup>

Korea, a major producer of ICT technologies, places less emphasis on digital sovereignty and self-sufficiency. Instead, its primary focus lies in preserving and expanding its competitive advantage in digital technology production. While the goals of Korea and the EU may not necessarily contradict each other, there may be limitations to the extent of cooperation they are willing to pursue in sharing information on key technology developments. Large Korean companies, chaebols, have pursued a strategy of techno-nationalism, which appreciates S&T in terms of national interests (Hee-Je Bak 2014; H.-S. Kim et al. 2010) and tries trying to maintain maximum control over production processes to avoid technology leaks.

One of Korea's main motivations for entering into a digital partnership with the EU was to elevate its position as a rule-maker and transform it into a 'leading country in the digital era, rather than staying stagnant as a fast-follower' (Chennery 2023). President Yoon's own words were: 'to ensure the legitimacy and sustainability of the digital order, it is necessary to guarantee fair opportunities through digital rights'.<sup>14</sup> The EU is widely recognized as a powerhouse in generating various rules and integrating them into international norms, and the Digital Partnership with the EU will help Korea to increase its credibility as a provider of norms for the digital age. To achieve this goal, Korea must collaborate with the EU, a recognized leader in international rulemaking, to enhance the accountability, ethics, and social value of its initiatives (Bennett and Raab 2020).

The EU is not the sole economy seeking cooperation with Korea in the realm of digital technologies. The United States is also actively pursuing multifaceted engagement with Korea in the digital sector. The US has adopted an assertive approach by leveraging its strategic alliance with Korea, Japan, and Taiwan in the Chip4 Alliance (Lee 2022). Additionally, Korea's reliance on US manufacturing technology for semiconductor development is being exploited to limit exports to China and pivot production to the US.

While the US is interested in bringing the EU onboard with its plan to restrict the spread of high-end technologies to non-alliance countries, its willingness to share the full benefits with the EU remains questionable. The US is utilizing all available tools at its disposal, including granting more visas and opportunities to live and work in the US, to attract Korean specialists. If the Korea–EU digital partnership fails to provide clearly defined benefits, its potential impact may be limited to the domains of security and privacy.

Another factor that will shape whether the Korea–EU digital partnership is successful is intra-regional integration. Asia, specifically the Asia-Pacific region, remains a central priority for Korea’s economic strategy. Countries other than China are also projected to become major consumers of Korean goods and are viewed as alternatives to China for manufacturing platforms. Consequently, Korea may have a reduced appetite for deepening digital cooperation with the EU until it has solidified its position within the region. On the other hand, the EU also has its own commercial interests and is aiming to enhance its competitive advantages in the Asia-Pacific region. Thus, there may come a point in the future where the interests of the EU and Korea in the Asian theater could potentially conflict with each other.

### 5. The Way Forward for the Korea–EU Digital Partnership

To enhance the impact of the Korea–EU digital partnership and promote digital trade, there are several aspects that need to be taken into consideration. The development of digital trade relies on the balanced progress of various elements (Table 2), including connectivity, payments, digital skills, logistics, and digital policy and regulation. Thus far, the focus of the digital partnership has primarily been on digital policy and regulation. While regulatory harmonization is crucial for establishing a level playing field, it is equally important to strengthen other elements to maximize the outcomes of policy measures.

**Table 2.** Main pillars of the digital economy.

Name of Pillar	Details
Connectivity	Affordable, reliable, and high-quality broadband internet access
Payment infrastructure	Safe and secure digital payment services that facilitate electronic transactions both domestically and overseas
Digital skills	Basic digital and data literacy skills, specialized skills to benefit from digital innovation
Logistics	E-commerce/digital trade is particularly dependent on well-regulated, widely available, and cost-effective logistics services, given high demand for delivery of goods
Digital policy and regulation	Policies cover a wide range of areas, from data privacy and cybersecurity to consumer protection. Regional coordination of such policies is desirable

Source: created by authors.

Connectivity, synergies in payment systems, and efficient logistics are all significant factors that contribute to the success of digital partnerships (Burri and Polanco 2020; Ferracane et al. 2018). Tuning these elements will play a vital role in ensuring seamless integration and cooperation between Korea and the EU. By prioritizing the development and improvement of these aspects, the digital partnership will be able to operate more effectively and yield greater benefits for both parties involved.

The active involvement of businesses is crucial for advancing the Korea–EU digital partnership. Without the participation of businesses, the partnership’s impact will be limited. To ensure business engagement, it is necessary to provide tangible and significant benefits, as well as establish transparent mechanisms for administering these benefits. Linking the partnership to the EU’s Chip act would further amplify its impact.

The EU needs to offer specific benefits that incentivize Korean companies to engage in collaborative activities. Presently, Korean businesses are primarily focused on strengthening their presence in countries such as Slovakia, Poland, and Hungary. The recent visit of the first deputy minister for industry to Hungary, leading a large delegation of businesses, indicated Seoul's keen interest in advancing bilateral ties in trade and investment. This suggests that Korea prefers nonbinding commitments.

The digital partnership should be open to the participation of other interested countries. Similar to the free and open Indo-Pacific strategy in geopolitics, the EU and Korea could promote an open and secure digital economy in the Indo-Pacific region, engaging with other significant players such as Vietnam, Thailand, Malaysia, and Indonesia. This approach would allow for capitalizing on existing geopolitical realities and align the changing economic landscape with geopolitical shifts. Facilitating regional harmonization of regulations in the early stages of digital trade development will create more opportunities to enhance efficiency and reduce costs. Any future adjustments would require additional resources and result in lost time.

Korea and the EU should collaborate actively to advance the digital economy and digital trade in Southeast Asia. By joining forces, they could work towards developing necessary infrastructure, introducing consumer protection policies, reducing barriers, and harmonizing regulations. This collaborative approach will help prevent unnecessary competition and resource wastage between the two entities.

The EU should not solely rely on its regulatory power when engaging with South Korea. It needs guiding principles that go beyond traditional patterns of bilateral cooperation. There is significant potential in establishing mechanisms to identify investment opportunities for European stakeholders in South Korea's startup ecosystem. This could contribute to overcoming the dominance of chaebol-controlled financial markets in the country. European agencies could collaborate with the Korea Institute of Startup and Entrepreneurship Development and the ROK Ministry of SMEs and Startups to design investment programs tailored to the Korean market. This would provide an advantage to the EU in terms of lower production costs and scale efficiency, as the Korean market has achieved sufficient economies of scale.

Another initiative that could benefit the partnership would be to give young Koreans opportunities to work in the European technology sector. However, there would be competition with the US, which is looking at attracting Korean talent.

## 6. Conclusions

This paper has discussed issues of digital partnership between Korea and the EU and the state of digital trade as an important element of this partnership. It has highlighted that both Korea and the EU have rationales to cooperate with each other. It also draws attention to the fact the current state of digital trade is small and unbalanced, which is a sign of existing divergence between core national priorities within the partnership. If this divergence remains unaddressed, it will affect the outcomes of the partnership. We have suggested areas that could be considered to maximize the impact of cooperation. We argued that the partnership should engage other actors (like businesses) through mechanisms that would outline benefits from closer cooperation in a clearer way. Bringing in other regional players that are important for the smooth operation of value chains will enhance the partnership's effectiveness. Synchronization of regulation at an early stage will optimize costs in the longer term, allowing for a more productive multi-level partnership. Mechanisms that go beyond traditional bilateral policy toolkits are needed for the new digital era. In future, the Korean–EU case could be replicated to generalize the findings into other jurisdictions.

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## Notes

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