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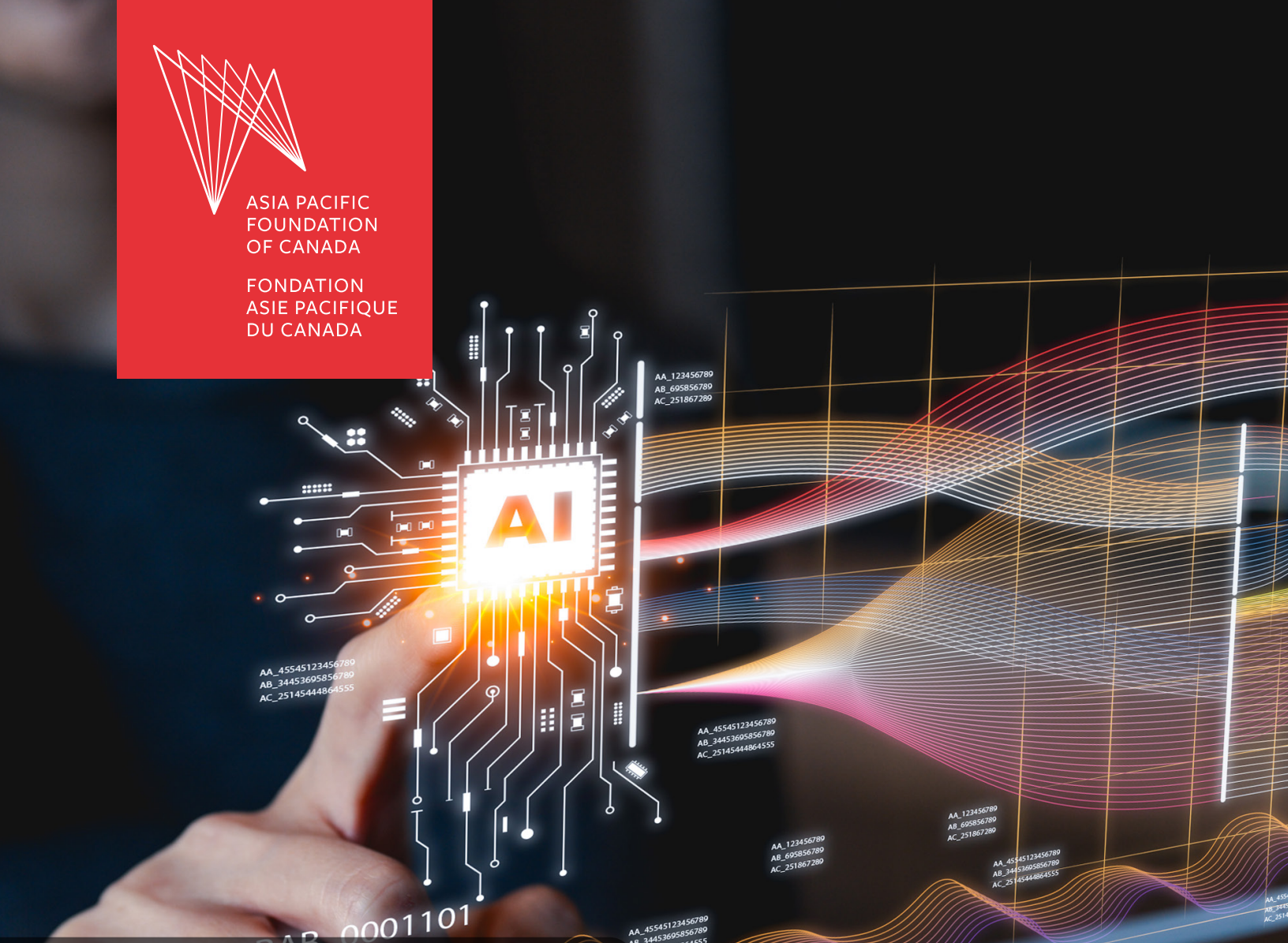

CANADA'S UNDER-THE-RADAR TRADE OPPORTUNITY:

Digital and AI-Enabled Trade

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Executive Summary

Canada is a small, open economy that depends on trade to grow its living standards. The primary public focus is usually on goods moving across the U.S. border — a focus that has intensified under Trump 2.0 tariff uncertainty.

This framing overlooks the most dynamic part of global trade and Canada's trade: exports of digital services. Advances in digitization and artificial intelligence (AI) are changing what can be traded and how. These technologies allow Canadian firms to export services, reach new markets and use digital inputs in traditional sectors.

This discussion paper assesses the extent to which Canada is maximizing the opportunity opened by digital services trade and ways it could benefit further. Since 2005, Canada's digital services exports have grown nearly four times faster than its goods exports, reaching US$84 billion in 2024. Computer services alone grew by over 400 per cent. Digital services now make up 62 per cent of Canada's commercial services exports and account for over one in 10 of Canada's total exports of goods and services.

Yet Canada is not seizing this opportunity as much as peers with similar levels of AI research expertise or GDP levels. Canada's share of global digital services exports remains below three per cent and has barely changed in two decades. Digital exports to Indo-Pacific markets remain limited, even though several of these countries are rapidly growing their imports of digital services. Canada also lags in embedding digital services into its traditional exports, with lower levels of digital value added than the OECD average.

> "Canada needs to place digital and AI-enabled trade at the centre of its economic strategy."

To respond, Canada needs to place digital and AI-enabled trade at the centre of its economic strategy. This includes setting national targets, supporting exporters, aligning trade and technology policy, helping to ramp up digital adoption in traditional industries, and continuing to modernize and expand trade agreements. The paper also proposes a targeted research agenda to guide this shift, including mapping digital-exporter pain points, identifying high-potential sectors, analyzing underused trade agreements, and examining how technologies like AI and blockchain are reshaping trade.

Introduction

Canada is a relatively small, open economy that depends on trade to grow its living standards. The U.S. dominates Canadian trade, and Canada is now facing major uncertainty with U.S. President Donald Trump's on-again, off-again tariffs and tariff threats against Canada and other countries. At the same time, Canada is grappling with a declining per capita GDP, marking a productivity crisis that predates the current trade conflict.

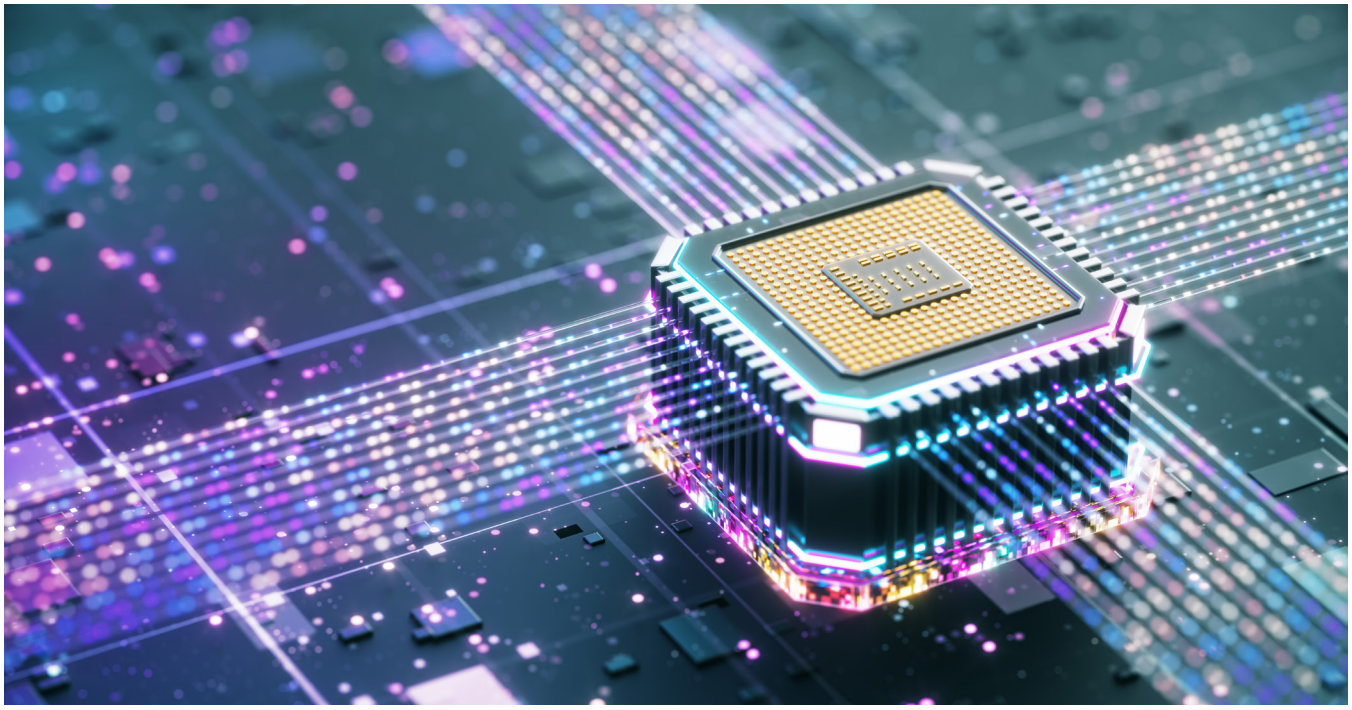
The public discussion in Canada around trade is now highly focused on products and natural resource exports, which are subject to tariffs and flow across the Canada-U.S. border. However, as Canada and the rest of the world recalibrate their trade strategies, digitization, cloud computing, and advances in artificial intelligence (AI) present huge trade opportunities.

Canada has been a leader in AI research: it launched the world's first national AI strategy in 2017 and two of the three AI "godfathers" conducted their groundbreaking AI research in Canada. In addition, Canadians are a digitally engaged society, ranking amongst the world's top downloaders of generative AI tools. Now, the country has its first minister of artificial intelligence and digital innovation, with an expected focus on AI's potential for economic growth. The June 2025 G7 meeting, hosted by Canada in Kananaskis, Alberta, also highlighted the economic opportunities of AI adoption and quantum computing.

What has received less attention, however, is the nexus between Canada's digitization and trade: digitization and AI enable Canadian firms to create new efficiencies, compete, reach distant markets and even create new products and services. In addition, trade in digital services — that is, services that can be delivered digitally from one country to another, such as software and audiovisual, financial and engineering services — are not subject to tariffs.

For the past decade, digital trade has been the fastest-growing segment of world trade; practically all regions have grown their digital services exports much faster than they have grown other services or goods exports. Similarly, we might expect that Canada, a digital nation, has increased its digital services exports and diversified its trade relationships both across a number of markets and into digital services. The stunning new advances in AI that allow non-experts to use tools across many different domains and enable seamless real-time translation between businesses in different countries, for example, promise to expand the digital services export opportunities for Canadian businesses even further.

Yet, Canada's digital trade has gained little attention in the public discussion nor amongst policymakers, except by officials whose job it is to promote and advance digital trade policies and agreements. This discussion paper aims to bridge this knowledge gap and raise awareness amongst both Canadian policymakers and the public about these critical gaps in the dominant trade discussion. In doing so, we document how Canadian and global digital trade are changing, argue for a major reframing of Canada's trade and trade possibilities, and suggest ways to shift focus to seize the digital and AI trade opportunity.



The main findings include:

- Canada's digital services exports have grown almost four times as rapidly as have Canada's merchandise and other commercial services exports. Computer services exports, such as software exports, have experienced especially strong growth.
- However, Canada's digital services exports can still grow much further. They still account for only 12 per cent of total Canadian exports of goods and services. In addition, because the world's other leading economies have also grown their digital services exports, Canada's share of these exports has not changed over the past two decades, remaining below three per cent and below the volumes of other economies of similar size.
- Canada's digital services export markets are only somewhat more diversified than those for its goods exports. The U.S., which accounts for 75 per cent of Canada's merchandise exports, buys 60 per cent of Canada's digital services exports. Europe is Canada's second largest market for digital services. Canada is underexploiting digital services export opportunities in dynamic Asian markets such as Indonesia, Japan, and the Philippines.
- Canada could more effectively seize the digital trade opportunity with a concerted effort to set goals for digital trade expansion, identify digital traders' pain points or barriers to expansion, and systematically coordinate efforts between agencies focused on digital transformation and those focused on trade promotion to grow digital services exports. Canada can also lead the development of new trade-related rules in such areas as AI policy and standards.

Below, we delve deeper into these findings.

How Canada's trade is changing due to AI and digitization

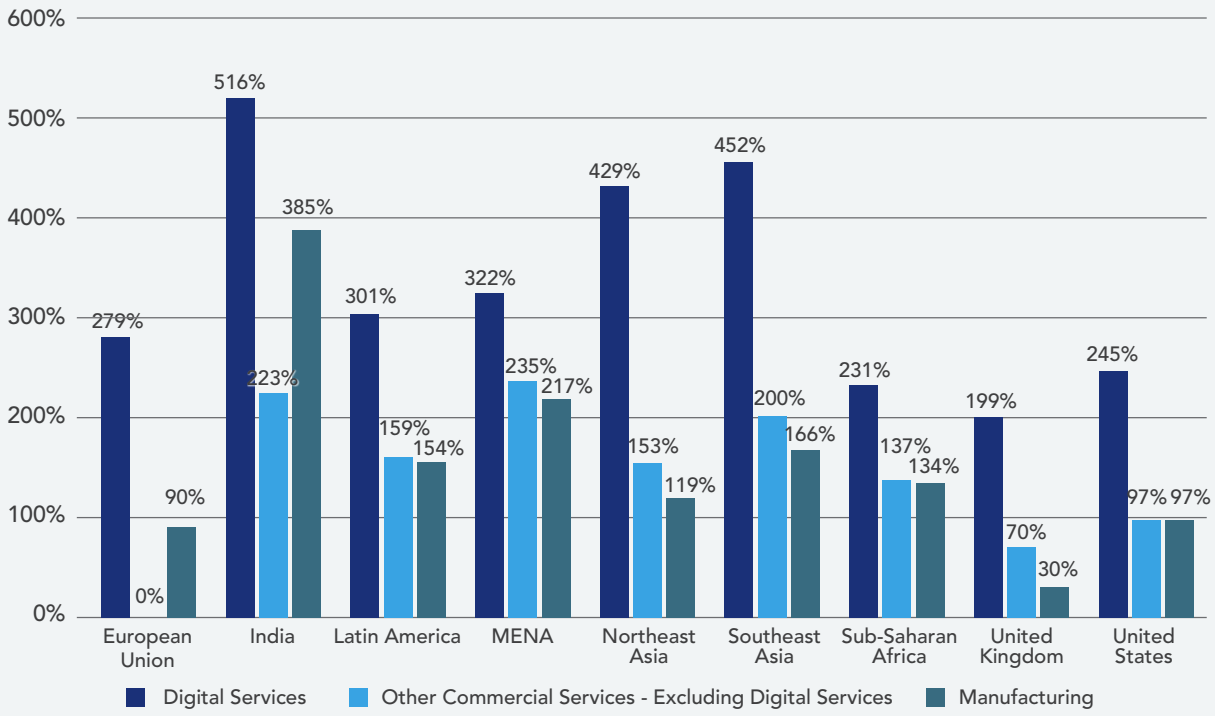
How has Canadian and global trade changed as a result of the digital revolution? Here, we examine the growth and composition of Canada's digital trade, focusing especially on digitally delivered services exports. This section also looks briefly at the use of digital services in Canada's manufacturing, mining and agricultural supply chains. We highlight six main points.

1. Digital trade is the fastest-growing part of world trade and of most countries' imports, creating opportunities for Canada's digital services exporters.

Digital services imports have been growing more rapidly than imports of goods or commercial services in all regions of the world, including in major import markets such as the U.S., U.K. and India, opening up

FIGURE 1

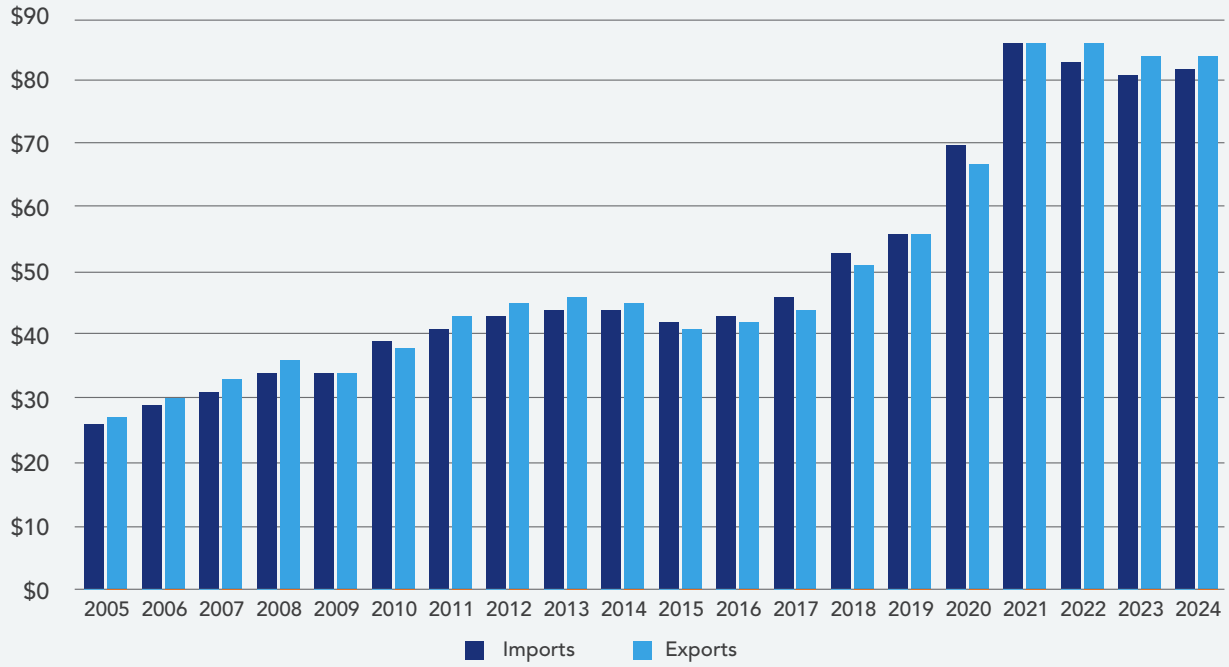
Growth of merchandise, other commercial services (excl. digital), and digital services imports in major world regions, 2005-24



Source: World Trade Organization (WTO)

FIGURE 2

Canada's digitally delivered services trade total (US$ billions), 2005-24



Source: World Trade Organization (WTO)

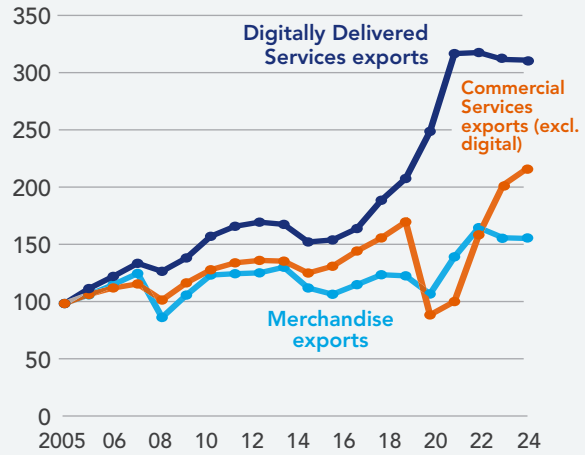
opportunities for Canadian exporters on a global scale (Figure 1). As of 2024, global digital services imports had soared to US$3.9 trillion, up from US$1.9 trillion in 2005, accounting for 55 per cent of all commercial services imports. This rapid growth of digital services imports accelerated during the Covid-19 pandemic, which catalyzed demand for specialized digital solutions among industries around the world.

2. *Digital services have become the fastest-growing segment of Canada's trade, outpacing the growth of Canada's manufacturing and services exports.*

Canada's digital services exports grew by 215 per cent between 2005 and 2024, rising from US$27 billion to US$84 billion (Figure 2). This is far larger than the growth of merchandise exports, which grew more than 50 per cent during the same period (Figure

FIGURE 3

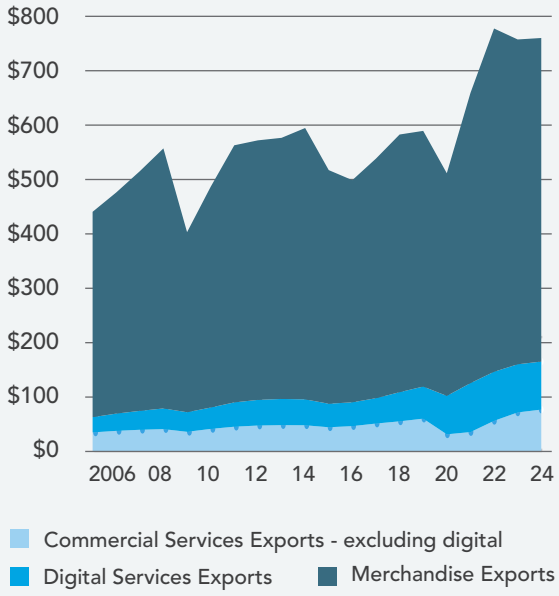
Growth of Canada's digital services, commercial services, and merchandise exports in 2005-24



Source: World Trade Organization (WTO)

FIGURE 4

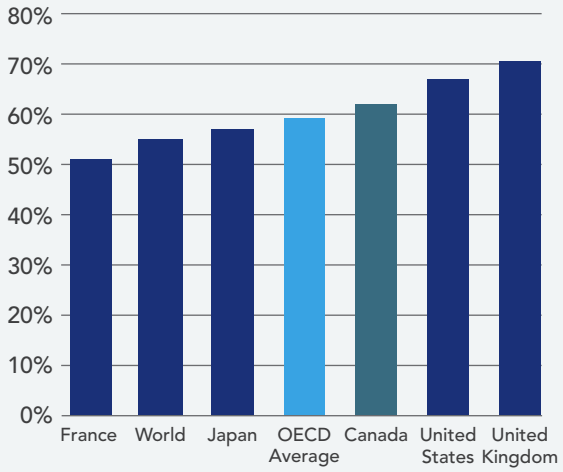
Growth of Canada's digital services, commercial services, and merchandise exports, 2005-24 (US$ billions)



Source: World Trade Organization (WTO)

FIGURE 5

Digital services exports as a share of various OECD countries' commercial services exports, 2023



Source: World Trade Organization (WTO)

3). (Merchandise exports grew by more in absolute terms, as they started from a much larger base.) Digital services exports have also grown as a share of Canada's export basket and now make up 61 per cent of Canada's commercial services exports, roughly on par with other OECD nations (Figures 4 and 5).

3. Computer services have been a key driver of Canada's digital services export growth.

The fastest-growing digital services exports are computer services such as software development, information technology (IT) consulting and data processing. High-value computer services exports grew from about US$2.7 billion in 2005 to over US$14.1 billion in 2024 to make up 17 per cent of Canada's digital services exports (Figure 6).

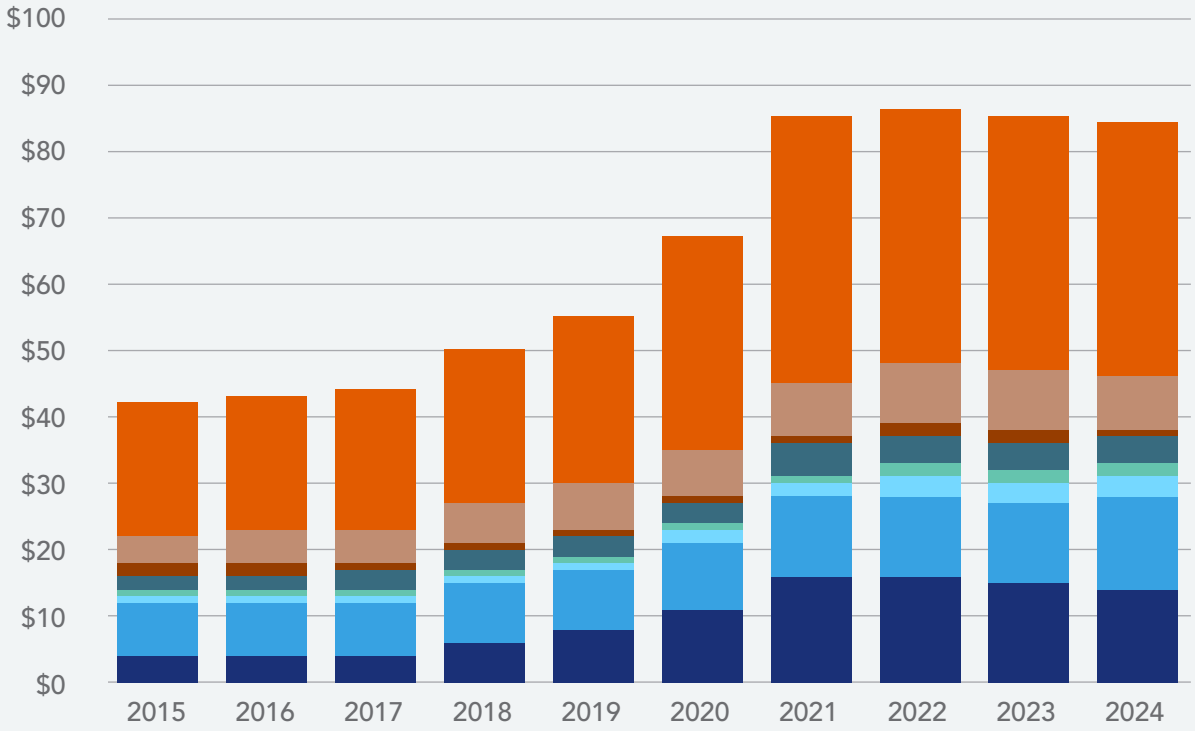
Meanwhile, "other business services" represent almost half of Canada's digital services exports. These include professional and management consulting, technical and trade-related services, and research and development (R&D) and audiovisual services. This category also captures the sub-industries in which Canada is competitive, such as environmental and architectural services. These kinds of services are increasingly easy to sell from a distance with the support of cloud computing and instant and accurate language translation tools.

On the import side, other business services is also the largest import category, with almost 60 per cent composed of professional and management consulting services; about 11 per cent of total digital services imports are computer services.

1. Despite growing rapidly, Canada's share of global digital services exports remained

FIGURE 6

Canada's digital services exports by sector, 2015-24 (US$ billions)



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Source: World Trade Organization

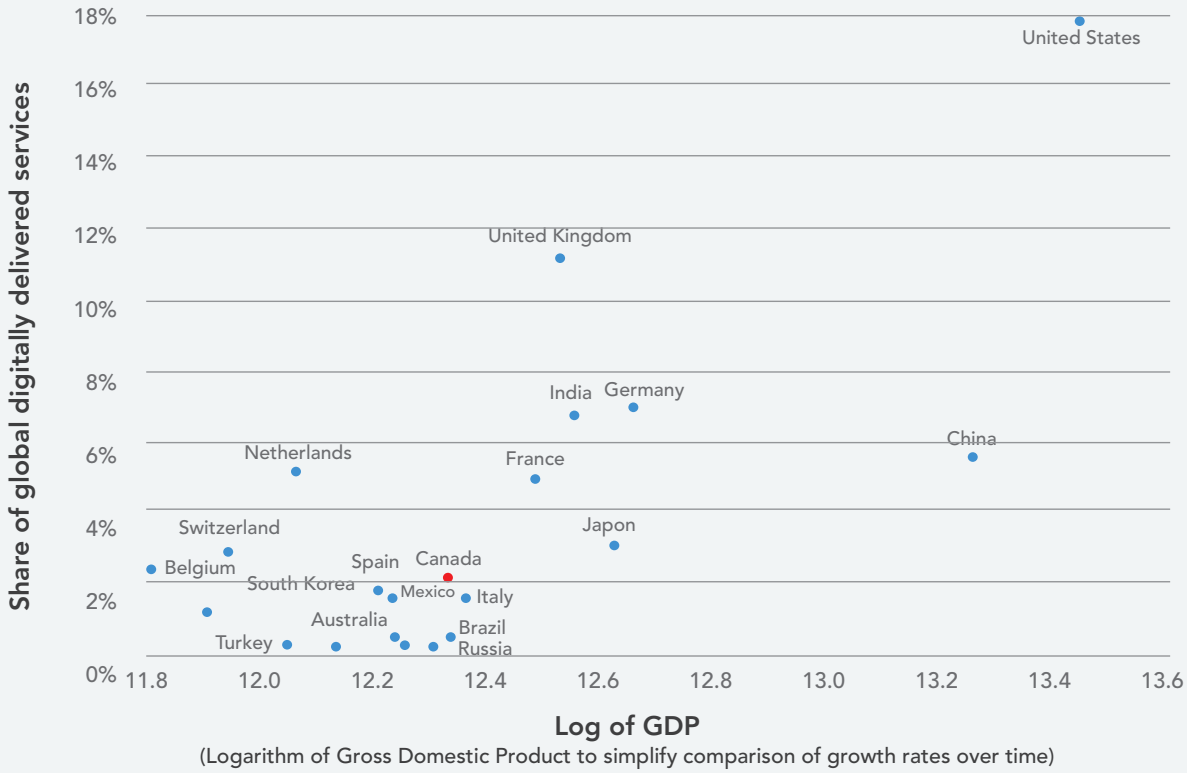
low, at 2.3 per cent in 2024, implying that Canada v below its weight in global digital services trade.

Economies roughly comparable in size to Canada, such as those of France, India, and the U.K., as well as smaller economies such the Netherlands and Switzerland, claim a larger share of global digital services exports than Canada (Figure 7). Canada's global share has remained largely unchanged over the past two decades, ranging from a high of 2.9 per cent in 2005 to a low of 2.1 per cent in 2017.

2. ***In terms of end markets, Canada's digital services exports are more diversified than its goods exports. However, Canada has not diversified its export markets for digital services in the past decade and is***

FIGURE 7

Canada's share of global digital services exports and GDP in 2023-24



Source: World Trade Organization

underexploiting digital services export opportunities in Asian markets such as Indonesia, Japan, and the Philippines.

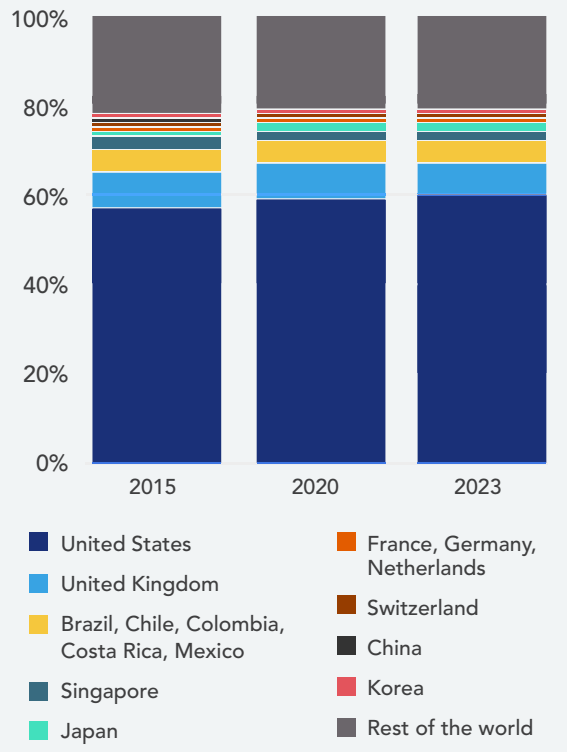
The U.S., which buys 75 per cent of Canada's merchandise exports, accounts for 60 per cent of Canada's digital services exports. The next largest importers of Canada's digital services are the U.K. (five per cent), Switzerland (two per cent), China (two per cent), and France, Germany, and the Netherlands (a combined seven per cent) (Figure 8).

Canada's exports to Asian markets are still limited — Australia, China, Japan, Singapore and South Korea combined comprised only six per cent of Canada's digital services exports in 2023, barely more than the U.K. This is despite Canada's large Asian diaspora populations and its membership in the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP), a leading trade agreement with an e-commerce chapter and robust digital trade rules.

Canada has essentially grown its export of digital services to its traditional digital services export markets, failing to diversify to Asia and the Middle East and to markets such as Japan, Kuwait, the Philippines, and Singapore, all of which have rapidly increased their digital services imports (see Appendix 1, Figure 1). In addition, the growth of Canada's digital services exports to large importers, such as Germany, Japan and the U.S., has been slow.

FIGURE 8

Canada's digital services export markets, 2005-2023



Source: WTO-OECD Balanced Trade in Services dataset (BATIS).

3. *Canada's digital services are also used as a value-adding input to traditional exports, enabling Canada's digital services firms to gain from trade as indirect exporters; however, Canada's share of digital services exports is still relatively low.*

Canada's digital service providers have additional opportunities to gain from trade by supplying Canadian exporters in other sectors. Canadian exporters in industries such as mining and manufacturing use digital services as an input into their exports of goods and services.

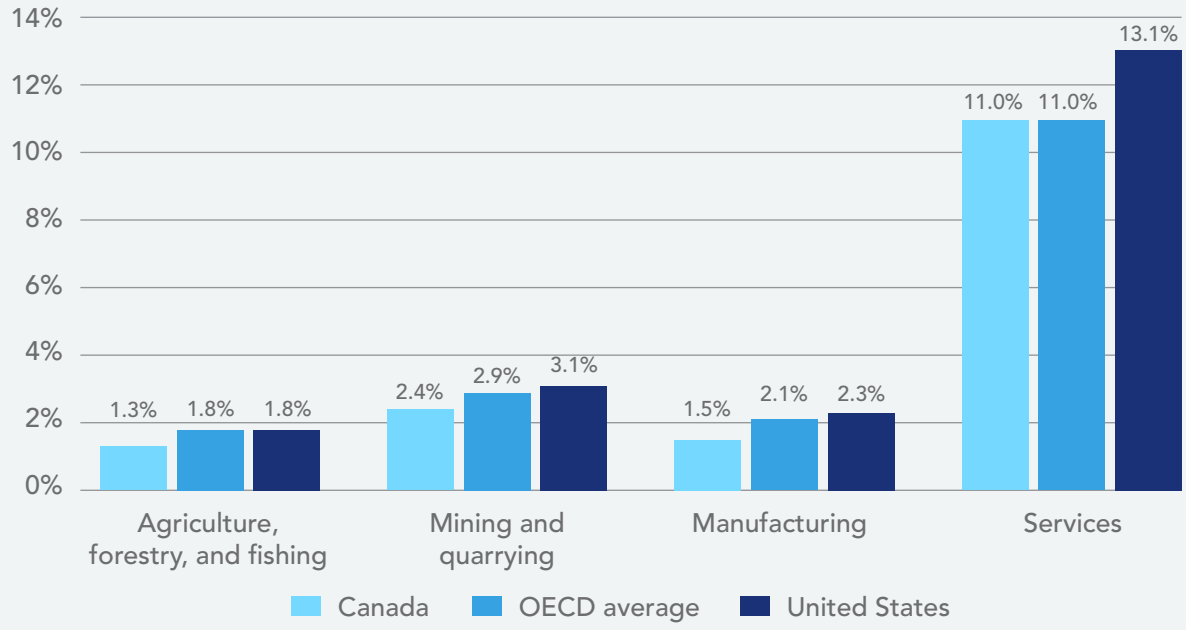
The level of these indirect digital services exports is still relatively low, however. The share of the information and communication industry's value added (the closest proxy for digital services in the OECD's Trade in Value Added database) in Canada's gross agricultural exports is one per cent, and in mining and manufacturing gross exports, two per cent — all somewhat below the OECD and U.S. averages in 2020, the latest year for which data are available (Figure 9). To be sure, digital services value added makes up 11 per cent of Canada's gross services exports, levels comparable to those of other OECD nations.

Most of the digital services value added in Canadian gross exports is Canadian, though the share of local content decreased from 2005-20 — in agriculture, it fell from 68 per cent to 56 per cent; in manufacturing, from 55 per cent to 45 per cent; and in mining, from 74 per cent to 66 per cent. These declines reflect Canadian firms' sourcing of globally competitive and differentiated digital services from the U.S. and around the world. For example, the Royal Bank of Canada, one of Canada's major banks, has outsourced top-quality IT services to different countries, especially India.

There are probably cases of traditional exporters in Canada that have begun to create digital services in-house and now export them; this would be a useful topic for further research.

FIGURE 9

Sources of digital services value-added in agricultural, mining, manufacturing, and services gross exports in 2023



Source: OECD Trade in Value Added Database (TiVA).

How Canada can seize the digital trade opportunity

What actions should Canadian leaders prioritize to leverage Canada's strengths in digital and AI services, and ensure Canada both expands its market share of global digital trade and uses digital trade opportunities to diversify its trade relationships?

Our main recommendation is that digital and AI-enabled trade must be at the core of Canada's trade discussion and strategy.

Canada brings major strengths to the table, especially the groundbreaking AI research taking place at its universities and startups. But the Canadian public and policy discussions on AI have thus far focused primarily on research strength and the risks of AI, and very little on Canada's potential to sell its digital and AI services globally.

The new Canadian minister of AI and digital innovation should work with the ministers of international trade and industry to lead a coordinated strategy to help businesses expand their digital exports. As a start, Canada should set a collective, inspiring goal, such as doubling Canada's share of global digital services exports by 2030, and ensuring that at least 50 per cent of Canada's digital services exports are outside North America, with a particular focus on fast-growing importers in the Indo-Pacific region.

The strategy should identify ways to attain this goal in the "intensive margin" of trade — that is, helping existing digital services exporters reach new markets — and in the "extensive margin" — helping non-exporters break into exporting. A good place to look for the latter is among the domestic suppliers of digital services to Canadian exporters that are not yet exporters themselves. Another place to look is software providers and digitized services firms (such as engineering, environmental services and professional services) that, due to their digitization, can scale more easily, be matched to global customers, and develop their capacity for international sales.

The digital strategy should also review areas of opportunity and strength in Canada's digital services exports, such as building on its strengths in AI R&D, and adopt best practices to translate them into exports. This could include, for example, increasing funding for digital startups that are poised to expand rapidly in world markets. Current Canadian funding levels are only half those in the U.K.

This strategy must also focus on educating federal and provincial agencies to reframe how they think about trade and where they should allocate their attention. Global trade is increasingly driven by data and digital platforms. Digital services are the fastest-growing segment of global trade, and AI advances further expand the range of "tradables." These services also represent an undertapped opportunity for Canadian businesses in both traditional and newer, faster-growing markets, which also happen to be the markets with which many Canadians have strong diasporic connections and that already have robust digital trade rules.

As Canada seeks to de-risk its trade, digital trade offers a hedge, as it is largely tariff-exempt, does not rely on physical infrastructure and is mostly unconstrained by geography. Digital trade therefore not only has upside potential in terms of growth but also reduces the overall risk in Canada's trade portfolio. Including digital trade in the picture means that Canada's trade is already more diversified both by sector and geography than is commonly appreciated.

In addition to reframing the trade discussion, we recommend the following:

1. *Create a digital and AI trade commons*

Canada lacks a forum that brings together trade and technology leaders. The AI trade opportunity is largely missing from Canada's AI-related discussions. The trade discussion, especially at this moment, is largely focused on protecting the free flow of goods across the Canada-U.S. border. There are, to our knowledge, almost no fora in which the internet of things (IOT), blockchain, and AI leaders work together with trade leaders. We propose a permanent collaborative effort that could be led by the Canadian Minister of AI and Digital Innovation and that would work across government agencies at all levels and across portfolios, including trade, industry and technology, as well as AI institutes, startups, exporters, and academic and think tank researchers. This forum should align efforts, fund applied research and focus on implementation. (A similar recommendation was made in 2022 to create a Canadian Digital Policy Council to take charge of Canada's digital trade strategy.)

2. *Expand, modernize, and leverage digital trade deals and shape global standards on digital trade*

Barriers to digital trade are not the same as those for products, but they do exist and have been proliferating in recent years. These barriers include rules on data localization and consumer protection, as well as requirements related to data privacy, requirements that companies give away their source code or other trade secrets, requirements for a local presence or buying local, and restrictions on foreign investment.

Canada has been advancing freer digital trade in many of its trade deals, including the Canada-U.S.-Mexico Agreement (CUSMA) (Chapter 19), the CPTPP and the Canada-EU Trade Agreement (CETA). In addition to CETA, in June 2025, Canada and the EU announced the start of negotiations towards an additional digital trade agreement. Canada should prioritize the modernization of these and other digital trade agreements, leveraging them and ensuring they are implemented well, and bringing new countries into these deals.[1]

Canada can also ensure the CPTPP and other trade deals evolve with the times to include AI and digital standards, as well as more robust provisions on interoperable payments, as have already been included in other agreements such as the Singapore-Australia Digital Economy Agreement. There are multiple International Organization for Standardization (ISO) standards in areas such as cybersecurity and AI that also shape trade. The International Chamber of Commerce has a Digital Standards Initiative aimed to facilitate both goods and services trade through common standards.

[1] A few available studies document the lack of monitoring and implementation of flagship e-commerce chapters in the CPTPP. See, for example, https://www.csis.org/analysis/implementation-cptpps-e-commerce-chapter-2023-and-toward-cptpp-20 and https://www.cips-cepi.ca/2022/11/28/canadas-indo-pacific-strategy-must-be-complemented-by-a-digital-trade-strategy/.

Reducing digital trade frictions represents a positive agenda to advance free and rules-based trade at a time when trade action has come to be defined by barriers and uncertainty.

3. *Scale up AI and digital adoption for traditional exporters and industries*

Firms using digital technologies as inputs in their production and R&D are more competitive in export markets. Canada has a relative weakness in incorporating digital services as inputs into its exports of traditional products and throughout its economy in general. To advance adoption, Canadian policymakers can use a suite of policy tools, including financing for firms to acquire technologies, digital transformation campaigns and fiscal incentives to make traditional firms' production and trade more technology-driven. The idea is to promote the digital transformation of traditional exporters, including in the agriculture and manufacturing sectors, as well as in services sectors such as insurance and environmental services. Canada can expand its digital adoption into digital trade-accelerator programming (for example, building on the blueprint laid out by Leblond in 2022).

4. *Invest in digital trade data and research infrastructure*

To support and grow our trade in digital and AI services, we need to invest in better ways to measure it and understand its best practices. Ottawa should support, expand and showcase investments in both digital trade metrics and applied research.

There have been major investments and improvements in our collective ability to measure and monitor developments in digital trade, including work undertaken by the OECD, WTO, and Statistics Canada. Canada should update these measures more frequently and highlight them in Canadian trade and economic discussions and in government publications. The federal government should also conduct or commission policy-oriented research including:

- Mapping the main pain points that firms, especially small to medium-sized enterprises (SMEs), face when seeking to sell and expand into international markets
- Identifying best practices globally in promoting digital exports
- Identifying Canadian sectors and firms that are already trading digital services
- Mapping strengths and potential export opportunities for Canadian AI and related services
- Analyzing why trade agreements remain underused and how some of the terms of the deals might need to be changed
- Developing a roadmap for Canada's future digital trade agreements
- Creating trade finance instruments and export promotion programs for digital trade
- Exploring how frontier technologies such as AI agents, large language models (LLMs) and blockchain could reduce border friction and improve real-time supply-chain visibility and management
- Analyzing how the menu of tradables is changing due to technological advancements and considering what the future of Canadian and global trade could look like

Conclusion

Canada's trade discussion needs to catch up to the major changes and opportunities brought about by the internet and AI. Canadian public and policy discussions on AI have thus far focused largely on AI research and the risks of AI. Little attention has been given to incorporating digital and AI services into Canadian exports or Canada's potential to sell its AI expertise globally.

Digitization, AI and other advanced technologies lower the cost of trading, enhancing firms' competitiveness and expanding the menu of tradables. They create opportunities to grow Canadian trade and living standards. They are also a hedge against the uncertainty now facing cross-border integrated production. These same technologies can also reduce border frictions in the face of trade subject to tariffs under Trump 2.0.

But Canada is growing its digital services exports far less actively than other countries with similar GDPs and depths of AI research expertise. Canadian businesses are underperforming in light of the huge global growth opportunities, both in markets that import large amounts of digital services, and in fast-growth digital services markets, especially those in the Indo-Pacific region, which represent the fastest-growing markets for digital trade. The share of Canadian digital services embedded in traditional exports is also low. Canada has significant strengths that are not being leveraged.

Policy-makers should treat digital trade as central, rather than peripheral, to the country's economic strategy. The current trade and productivity crises open a window within which to make this change. Canada needs to accelerate its support for digital exports and remove barriers, scale the adoption of digital services across exporters, build the evidence base to support these opportunities, and bring leaders together across technology and trade to capitalize on these new trade possibilities.

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