



EMERGING TRADE TRENDS

Digital Trade.

Snapshot

- Digital trade has exploded in the past decade. Cross-border data flows already contribute more to the global economy than merchandise trade. And this is only the beginning, with digital trade now making its way into 21st century free trade agreements.
- The adoption of blockchain, artificial intelligence and the Internet of Things applications will unleash a wealth of new opportunities for firms engaging in both digital and traditional trade, creating markets for new products and services and significantly improving business processes to collect, store and analyse sensitive data.
- However, in addition to rising IT and cybersecurity costs, the uncertainty around the rules and regulations governing data privacy and cross-border data flows, coupled with rising digital protectionism, will pose new challenges for firms.

Background

Digital trade—i.e. transactions leveraging the Internet to order, produce, or deliver goods, services, or information¹—has grown at a tremendous pace over the past decade. E-commerce is now facilitating as much as 12 per cent of all goods trade worldwide.² Buyers and sellers of all types of goods and services can now be connected instantly through the multiplication of online marketplaces. And digitization³ has led to an explosion of new digital products that can be sold internationally with just one click.

Cross-border data flows underpin all digital trade taking place between countries, and their contribution to the global economy is already larger than that of merchandise trade.⁴ Since 2010, cross-border data flows have grown exponentially, essentially doubling in size every 24 months. (See Chart 1.) And according to the McKinsey Global Institute, this trend will continue for the foreseeable future.

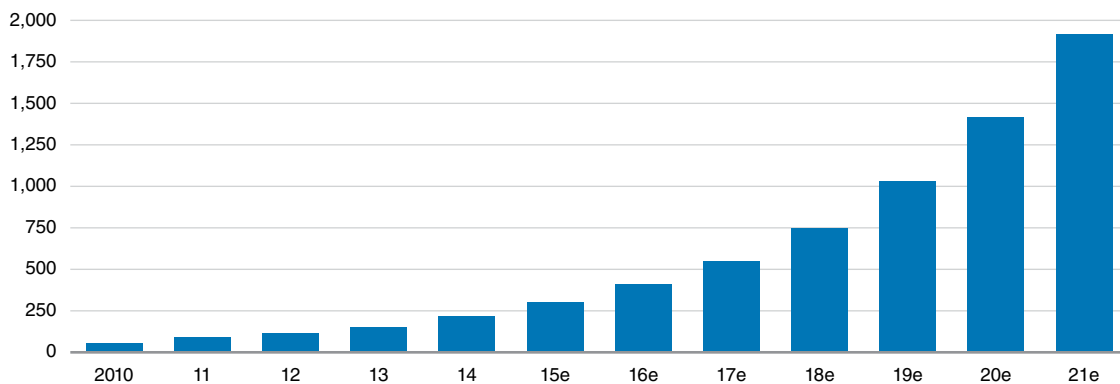
Cross-border data flows are expected to reach close to 2,000 terabits per second by the early 2020s—compared with an estimated 500 today.⁵

New applications leveraging the power of **artificial intelligence**, the **Internet of Things (IoT)** and **blockchain** technologies will be playing a key role behind the surge in digital trade in coming years. As such, global demand for new products and services built on these technologies will explode over the next decade. In particular, businesses across all industries will need powerful cloud-based solutions leveraging the power of AI, IoT and blockchain to better collect, store and analyse sensitive data and extract value from it.

Chart 1

Cross-Border Data Flows to Reach Almost 2,000 Terabits by 2021

(terabits per second)



e = estimate

Sources: TeleGeography, Global Bandwidth Forecast Service; McKinsey Global Institute analysis; James Manyika and others. "Digital Globalization: The New Era of Global Flows" (McKinsey Global Institute, 2016).

- 1 There are no standard definitions for digital trade. This definition is based on the United States International Trade Commission's digital trade definition in Stamps and Coffin, *Digital Trade in the U.S. and Global Economies, Part 2*, <https://www.usitc.gov/publications/332/pub4485.pdf>.
- 2 James Manyika and others, *Digital Globalization: The New Era of Global Flows* (McKinsey Global Institute, 2016), <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/digital-globalization-the-new-era-of-global-flows>.
- 3 The ability to convert information, products, or services into a digital format, allowing businesses to easily trade them beyond their borders.
- 4 Ibid.
- 5 James Manyika and others, *Digital Globalization: The New Era of Global Flows* (McKinsey Global Institute, 2016), <https://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/digital-globalization-the-new-era-of-global-flows>.

Challenges and Opportunities

The surge in digital trade and cross-border data flows is accompanied by major challenges for Canadian businesses, whether these challenges are soaring IT and cybersecurity costs or navigating the growing wave of digital protectionism around the world. However, the opportunities made possible by digital trade are endless. Blockchain, artificial intelligence and the Internet of Things applications will create entirely new markets for digital products, while also streamlining and enabling further growth in traditional merchandise trade.

Challenge: Growing Digital Protectionism

Digital trade is not immune to trade barriers and protectionist policies. As such, a growing number of nations are adopting measures that restrict cross-border data flows and impede digital trade.⁶ Data localization measures, which require firms to locate their data within a country's borders, are the most common type of barriers. Their use is widespread around the world, including in China, Europe, the United States, and Canada (notably for the storage of government data).⁷

Privacy and security reasons are often cited by governments as reasons to justify the use of these policies. But the ultimate protection of domestic players from international competition can also be an underlying motive. And, as with barriers to traditional trade, impediments to digital trade—such as data localization requirements—can also have a negative impact on productivity and GDP. Estimated GDP losses are around 0.5 per cent for China, Korea, and the EU, according to a 2016 study.⁸ Barriers to cross-border data flows also result in foregone business opportunities, especially for smaller firms without the necessary means to navigate these rules and comply with them.

Opportunities

New trade agreements now incorporating digital trade. Given the rapidly growing importance of digital trade within global commerce, trade agreements currently being negotiated by Canada include provisions specifically addressing the rules and barriers to digital trade. As such, both NAFTA and the Trans-Pacific Partnership will include an entire chapter on the topic. This will help to protect business opportunities in foreign markets for Canadian firms selling digital products and services.

6 Council on Foreign Relations, "The Rise of Digital Protectionism Insights From a CFR Workshop," accessed December 11, 2017, <https://www.cfr.org/report/rise-digital-protectionism>.

7 Nigel Cory, "Cross-Border Data Flows: Where Are the Barriers, and What Do They Cost?" (Information Technology and Innovation Foundation, May 2017), <http://www2.itif.org/2017-cross-border-data-flows.pdf>.

8 Matthias Bauer and others, *Tracing the Economic Impact of Regulations on the Free Flow of Data and Data Localization* (Waterloo: Centre for International Governance Innovation, May 2016), <https://www.cigionline.org/publications/tracing-economic-impact-regulations-free-flow-data-and-data-localization>.

Blockchain technologies enabling traditional goods trade. Digital and traditional merchandise trade will become even more closely intertwined in coming years, with applications leveraging blockchain technologies about to revolutionize the trade finance segment.⁹ Trade finance platforms powered by blockchain have the potential to provide a secure digital system for all the required documentation. These include letters of credit and shipment certifications—making them easily accessible to the various stakeholders along the supply chain, and providing real-time updates on each step of the process.¹⁰ In turn, the digitization of trade finance could significantly improve the financing options available to small and medium-sized businesses, notably through reducing the risks associated with each transaction.¹¹ Maersk, the shipping company, is currently partnering with IBM to test and develop such a blockchain platform.¹²

Challenge: Growing Spending on IT and Cybersecurity Risks

To leverage the full potential from digital trade, firms have to make a significant investment in their IT systems and infrastructure. Moreover, the growing threats of data breaches means more resources need to be dedicated to cybersecurity, especially for firms handling large amount of confidential data. In 2016, the average cost of data breaches in Canada topped \$6 million, up 13 per cent from the year before.¹³

Opportunities

Sourcing inputs and finding talent. With one click, digital trade allows firms to do business with suppliers of goods and services from around the world, and has the potential to make significant cost-savings and improve productivity. For smaller firms and start-ups, accessing the necessary IT infrastructure through cloud-based services is easier than ever. Firms can also access global talent pool by using online marketplaces such as Upwork and Freelancer. Connecting talent with global needs could add \$2.7 trillion to global GDP by 2025 by allowing for better skills-matching globally.¹⁴

Tapping into the wealth of data. By investing in IT infrastructure and systems to engage in digital trade, firms become well-positioned to collect valuable data and information on their customers and suppliers. This can help with identifying new business opportunities, lead to improved decision-making and cost savings, and create a competitive advantage. Further, over the next decade, IoT applications will lead to an explosion in the volume of data that firms will be able to leverage and monetize. According to Bain and company, the global market for IoT applications will be worth over \$450 billion by 2020—two-thirds expected to come from the business to business segment alone.¹⁵

9 Intelligent Trade and Tech Initiative, “Building ITTI: Intelligent Trade and Tech Initiative—A Discussion Paper,” http://itti-global.org/wp-content/uploads/2017/12/ICC_DP_ITTI-2.pdf.

10 Ibid.

11 Ibid.

12 Maersk, “IBM and Maersk Demo: Blockchain Cross-Border Supply Chain Solution,” September 13, 2017, https://www.youtube.com/watch?v=LJFloQ-_hLk.

13 Ponemon Institute LLC, *2016 Cost of Data Breach Study: Canada* (Michigan: Ponemon Institute LLC, 2016), <http://m.softchoice.com/web/content/m/usg-assets/2016CostofDataBreach-CanadaStudy.pdf>.

14 James Manyika and others, *A Labor Market That Works: Connecting Talent With Opportunity in the Digital Age* (McKinsey Global Institute, 2015).

15 Peter Bowen, Asit Goel, Michael Schallehn, and Michael Schertler, “Choosing the Right Platform for the Industrial IoT” (Bain & Company, September 28, 2017), <http://www.bain.com/publications/articles/choosing-the-right-platform-for-the-industrial-iot.aspx>.

Navigating the Trend

In less than 15 years, the explosion in digital trade has disrupted many business models and industries. Businesses need to get accustomed to today's rapid pace of change, as it will only accelerate with technologies such as AI and IoT, and as blockchain applications become widespread. To stay on top of the curve and make the most from the tremendous opportunities the digital revolution makes possible, businesses should:

Attract Top Talent and Continuously Invest in Their Workforce

- To leverage the full potential of digital trade, firms need to invest in their talent. They need leaders and managers who understand the latest technological trends and their implications, and can develop successful digital strategies. In addition, executing these strategies requires leading tech experts—such as data scientist, software developers, and programmers.
- With technological changes constantly creating new trends and opportunities, firms also need to develop their employees' digital skills. Offering regular training and development opportunities will be essential for firms to stay competitive in the long term, and to retain their top employees. Business opportunities are now global, and so is the competition for talent.

Stay on Top of the Latest Legislation on Data Privacy Protections and Cross-Border Data Flows

- Cross-border data flows are met with a patchwork of different rules and regulations abroad. Some are created to protect consumers' privacy, while others have the protection of local businesses in mind. With the use of cloud computing becoming increasingly widespread, so too are questions of where and how this information is being stored, who owns it, and who has access to it.
- With governments playing catch-up when it comes to digital trade, we expect increased regulations in the future,¹⁶ which will add to the complexity and costs associated with complying with these rules. Although firms should not let the prospect of new regulations prevent them from innovating, it will be increasingly important to get the right legal advice to avoid unforeseen consequences due to regulatory changes.

¹⁶ As an example, Europe's forthcoming General Data Protection Regulation will have a big impact, with some of the most stringent data privacy protections in the world. Detlev Gabel, "Chapter 13: Cross-Border Data Transfers—Unlocking the EU General Data Protection Regulation," <https://www.whitecase.com/publications/article/chapter-13-cross-border-data-transfers-unlocking-eu-general-data-protection>.

Canadian Exporter Experience

Company Name: CC Global Solutions Inc.

Location: Burlington, Ontario

Website: coglobalsolutions.net

Product: Conception, production, and delivery of brand-building merchandise

Year Established / Started Exporting: 2014 / 2014

Employees: 17

Total Revenues: \$7 million

Export Share of Sales: 10 per cent

Export Markets: U.S., Europe, Russia, Australia

Description

CC Global Solutions (CCGS) is a vertically integrated manufacturer of brand-building merchandise, supported by a digital infrastructure for everything from product creation to warehousing and delivery.

Competitive Advantage

The company's Global Management System (GMS) links all supply chain pieces together, allowing it to deliver quality products on time and on budget. This collaborative software is central to the firm's activities, from product idea to consumption by the end user, while also reducing the miscommunication that can happen between global companies and their suppliers.

Dealing With the Challenges of Digital Trade and Cross-Border Data Flows

Data security in an era where cyber attacks are on the rise

One of the ways the firm is tackling concerns about cross-border data flows and data security is by developing a Tier 4—a fully compliant data centre in Canada with enhanced security and features.

Increased complexity and costs associated with cross-border data flow rules and regulations

“Given the ever-changing political relationships between countries, increases in cross-border data flow restrictions will become more and more complex and prevalent. Businesses that build systems to manage these complex relationships will be strategically positioned to expand into markets that enforce geopolitical data flow restrictions.”—**Annette Mitchell**, President

Future Growth Plan

CCGS plans to boost export sales from 10 to 50–60 per cent of revenues. “We want to diversify and become a truly global company, to minimize the risk associated with the peaks and valleys of relying on a single market.” In terms of the geographic markets the company targets: “We just follow the problem. We want to be geospatially agnostic”, says Mitchell.

Export Tips

1. Have staff on the ground, particularly in countries with a large time difference.
2. Don't shy away from dealing with small companies. "Today, businesses need to be global and flexible and can't act pompously when dealing with innovative start ups," Mitchell stresses.
3. Customer service is everything. "We put endless enthusiasm and energy into that doctrine. This is being encapsulated into our system designed to enhance customer experience and deliver quality goods on time at an economical price," says Mitchell.

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Insights. Understanding. Impact.



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