CETA

STRENGTHENING CANADA-EU TIES AND SCALING THE CANADIAN DIGITAL ECONOMY

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Preface

ICTC is a not-for-profit, national centre of expertise for strengthening Canada's digital advantage in a global economy. Through trusted research, practical policy advice, and creative capacity-building programs, ICTC fosters globally competitive Canadian industries enabled by innovative and diverse digital talent. In partnership with a vast network of industry leaders, academic partners, and policy makers from across Canada, ICTC has empowered a robust and inclusive digital economy for over 25 years.

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Abstract

International trade is a key contributor and supporter of Canada's overall economy, as well as the scaling digital economy. The Comprehensive Economic and Trade Agreement (CETA), a free-trade agreement between Canada and the European Union, was ratified in 2017. CETA is benchmarked as one of Canada's most progressive and beneficial free trade agreements. Two years after entering into force, the benefits of CETA are already evident for EU businesses but have been slower to appear for those in Canada. From end of 2017 to end of 2018, exports from the EU to Canada increased by 11%, whereas exports from Canada to the EU saw only about one third of this growth (4%). Canada's relatively slow uptick in trade with the EU suggests a clear need to effectively leverage CETA to accelerate commerce—specifically in digital technology—with what is one of the largest marketplaces in the world. This study investigates the trade relationship of EU digital businesses with Canada across sectors such as digital services, health and biotech, cleantech, fintech and others. While most EU businesses in these sectors have a favourable opinion of Canada, this is largely based on intrinsic values such as the stable political system and cultural symbiosis with the EU. However, many EU businesses have limited insight into the Canadian digital economy and Canadian successes in this space. The vast majority of EU businesses surveyed noted little to no knowledge of any Canadian developments in this area. Lack of visibility and scarcity of available information on Canadian digital success stories was highlighted as major barrier to expanding trade relationships with Europe. This was coupled with challenges in understanding and navigating Canada's fragmented provincial regulatory systems. Many EU businesses are interested in expanding trade partnerships with Canada through CETA but stressed that Canada needs to market itself more clearly and provide actionable and detailed intelligence about its digital economy to would-be EU partners.

The data collected for this research concluded at the end of 2019. Therefore, while this report reflects general trade dynamics between Canada and the EU, it does not take into consideration the impacts of the COVID-19 pandemic, which has destabilized supply chains and impacted trade relationships on a global level.

Table of Contents

Executive Summary

Free trade agreements have many broad and sweeping advantages. They strengthen relationships between nations and are recognized as key drivers of economic growth, imports and exports, foreign direct investment, technology and idea transfer, and much more.

Focusing on what is frequently described as Canada's most progressive free trade agreement to date, this study offers an overview the Comprehensive Economic and Trade Agreement (CETA) between Canada and the EU from a digital economy trade perspective. This includes an analysis of digital priority areas, EU market needs and core strengths, and a deeper examination of existing challenges and critical barriers.

The sheer size of the EU economy makes it a major international marketplace for digital goods and services. Europe's market demands related to technology are highly diversified, including applications in areas such as finance, agriculture, healthcare, and several others. CETA eliminates 98% of all duties on goods between Canada and the EU, which presents significant opportunities for growth on both sides of the Atlantic.

Two years after CETA came into force, much has changed for Canada's trade prospects with the EU, but little has changed in terms of Canada's export numbers. Canadian technology goods exported to the EU increased by 4% during the period, while imports of technology goods from the EU to Canada grew by almost 11%. Are European digital businesses more interested in expanding their footprint in Canada than Canadian businesses are to penetrate the EU market? Are they somehow more aware of the value of CETA or better equipped to leverage it? By examining the framework of this trade agreement, this study highlights critical priority areas in the EU digital economy and finds that sectors such as fintech, advanced manufacturing, and cleantech are ripe with opportunity (these are also areas of innovation for many Canadian digital businesses). EU business leaders express an overall favourable perception of Canada—noting aspects of cultural symbiosis, a stable political environment, and the availability of skilled talent as key drivers. But they also highlight critical stumbling points such as small market size, the lack of information on Canada's accomplishments in the digital economy, and unclear regulations across provinces.

Canada is one of the EU's closest trading partners. The modern relationship reaches back about 80 years to the end of the Second World War. Since then, the commitment to democratic principles, human rights, fundamental freedoms, and the respect for the rule of law have only strengthened and solidified this relationship. In 2017, the ratification of CETA expanded on this deeply entrenched partnership and marked the start of a new beginning. Leveraging CETA to accelerate trade and promote closer ties between Canadian and European digital economies holds the promise of elevating this alliance to new levels.

Introduction

Canada's digital economy is growing at a rate that surpasses the rest of the economy. In 2017 alone, the nominal gross domestic product (GDP) associated with the digital economy was nearly 6% of all economic activity in the country.[1] To put this in perspective, this means that Canada's digital economy *already* generates more wealth than traditional sectors such as mining, oil and gas, and forestry.[2] At the same time, accelerating digitization across other sectors continues to shift the boundaries of what is or is not considered "tech." As technologies advance and digital adoption becomes more widespread, it is likely that these currents of change will eventually stand to reshape our economy altogether.

The ICT (tech) sector itself has traditionally played a major role in the Canadian economy, ramping up the exports of goods and services through bilateral initiatives and previous free trade agreements like the North American Free Trade Agreement (NAFTA). In 2017, the Comprehensive Economic and Trade Agreement (CETA) entered into force. At the time regarded as ground-breaking, CETA affords Canada enhanced market access to the EU and for service providers, it eliminates 98% of tariffs on goods and services. By the end of 2018, the new agreement was already beginning to show promise. At that time, roughly 78% of tech products manufactured in Canada were exported around the world,[3] and Canadian exports of goods and services to the EU increased by 4%.[4,5] With agreements like CETA in place, Canada is presented with opportunities to create, innovate and expand its digital economic footprint to new and impactful corners of the world. CETA opens the door to an unmatched global marketplace and will play an important role in enhancing and amplifying the Canadian digital economy.

This paper showcases how critical CETA is to achieving the above objectives. In doing so, it highlights the following topics:

Section I of the report provides an overview of the Canada-EU trade relationship. With emphasis on the technology sector, this section describes the recent history behind Canada's trade relationship with the EU.

Section II of the report offers an overview of the EU's digital strengths and key areas of consumer demand for digital goods and services. The section also unravels findings from primary research with EU business leaders on the attractiveness of Canada as a trade partner.

Section III highlights the EU's top tech importers and paints country profiles that can be used to identify market opportunities for Canadian digital businesses.

What CETA Means for Canadian Businesses

CETA is one of Canada's most ambitious bilateral initiatives. The concept of a free trade agreement between Canada and the EU resulted from a joint study published in October 2008, *Assessing the Costs and Benefits of a Closer EU-Canada Economic Partnership*. After examining the costs and benefits associated with closer economic ties, Canada and the EU began negotiating a free trade agreement. On September 21, 2017, CETA came into force.

Considering the sheer size of its marketplace, the EU is a major trade partner for Canada. CETA is one of Canada's most progressive and fruitful trade initiatives since NAFTA. In addition to topics like tariffs and duties, the agreement addresses questions related to investment and even worker mobility.[6] For this study, the benefits of CETA will only be analyzed through the lens of trade. The following is a non-extensive list of the ways in which CETA impacts trade with Canada, particularly for Canadian ICT businesses.[7]

1. Duties on approximately 98% of goods traded between Canada and the EU are eliminated. Prior to the signing of CETA, only one in four Canadian products exported to the EU were duty-free.[8] All pre-existing EU tariffs on Canadian ICT goods are eliminated.
2. Canadian ICT service providers compete on equal footing with EU firms.
3. Canadian ICT businesses have access to EU government procurement markets. These markets are estimated to collectively generate more than $3 trillion annually,[9] a figure that is greater than the entire Canadian economy ($2.3 trillion).[10] CETA's government procurement provisions cover a range of ICT services including data processing, software implementation, and hardware installation.
4. Canadian ICT companies benefit from improved worker mobility provisions, such as entry without the requirement of a work permit for 90 days. These provisions make it easier for skilled professionals and businesspeople (including short-term business visitors, intra-company transferees, investors, and contract service suppliers) to conduct business in the EU.
5. According to the *Protocol on the Mutual Acceptance of the Results of Conformity Assessment*, Canadian ICT businesses are eligible to test products for conformity, according to EU standards, while still in Canada. This provision may reduce costs and delays for Canadian producers.

Part I: An Overview of the Canadian-EU Trade Relationship

The Importance of Trade in the European Union

The European Union (EU), established in 1993, is a political and economic union of 27[11] member states. Today, the EU is home to around 6% of the world's population (446 million[12]) and generates a GDP of approximately $13.5 trillion[13] or around 17% of the global economy[14]. Alongside the US and China, the EU is one of the three largest players in international trade.[15]

The EU is a single market comprised of nation states that have "pooled" aspects of their sovereignty by adhering to a standardized system of laws. It constitutes one territory without internal borders or regulatory obstacles impeding the movement of goods, capital, people, and services.[16] Nineteen of the EU's 27 member states use the Euro, the world's second largest reserve currency. Free trade is one of the key principles underpinning the EU. The aforementioned "four freedoms" represent the culmination of decades of incrementally liberalized trade policy following the Second World War. Today, nearly 65% of total trade in the EU occurs between member states.[17]

The EU's openness toward trade with non-EU countries has allowed it to become one of the world's top trading partners. The EU has solidified its position as a powerhouse of amalgamated nations with nearly 500 million unified consumers, 21 million small and medium-sized enterprises (SMEs),[18] and more than 15% of global exports[19] (machinery and vehicles represent slightly more than 40% of total exports from the EU and around 31% of total imports to the EU[20]).

There is no country or free trade area that matches the EU's depth and breadth of trade relationships. While the EU is the top trading partner for 80 countries, the US is only a top trading partner for 20.[21] According to the World Bank, internal and external trade collectively accounted for more than 86% of the EU's GDP in 2018, up from 77% in 2008.[22] Recognizing the opportunities that trade offers, the EU remains committed to developing commercial relationships outside its borders and spearheading new free trade agreements such as CETA.

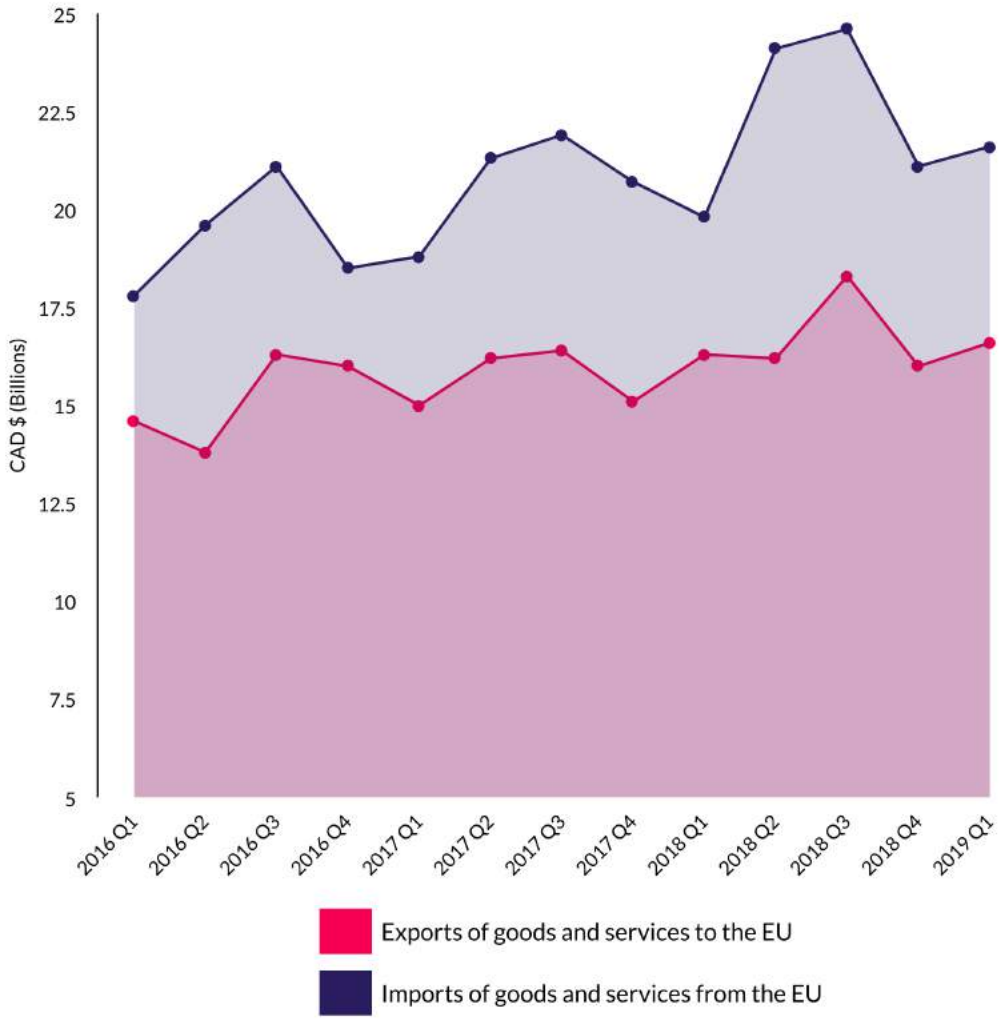
Canada and the EU: A Free Trade Story

CETA is creating significant impacts for Canada in the trade of goods and services.

In 2018, one year after CETA entered into force, the value of goods and services exported from the EU to Canada totalled $89.2 billion.[23] This represented an increase of nearly 11% from the pre-CETA period. Within the first year of CETA's existence, the EU was already effectively leveraging the agreement.

In Canada, the impact of CETA on exports was less impressive. In 2018, the value of goods and services exported from Canada to the EU reached $66 billion,[24] an increase of less than 4% over the previous year.

Figure 1: Canada - EU goods and services trade, quarterly, Q1 of 2016 – Q1 of 2019



Source: Statistics Canada, Global Affairs Canada

The Canada-EU Trade Relationship

The EU is Canada's second most important destination for exports after the US. While Canada's exports to and imports from the EU have seen strong growth over the last 15 years, Canada tends to import from the EU more than export to it—both pre and post-CETA. Since 2014, Canadian exports to the EU have grown at an annual average rate of 5%, whereas imports from the EU have grown around 7% per year.

Figure 2: Imports and Exports of Goods Between Canada and EU, Annual, 2002 - 2019

Source: Statistics Canada

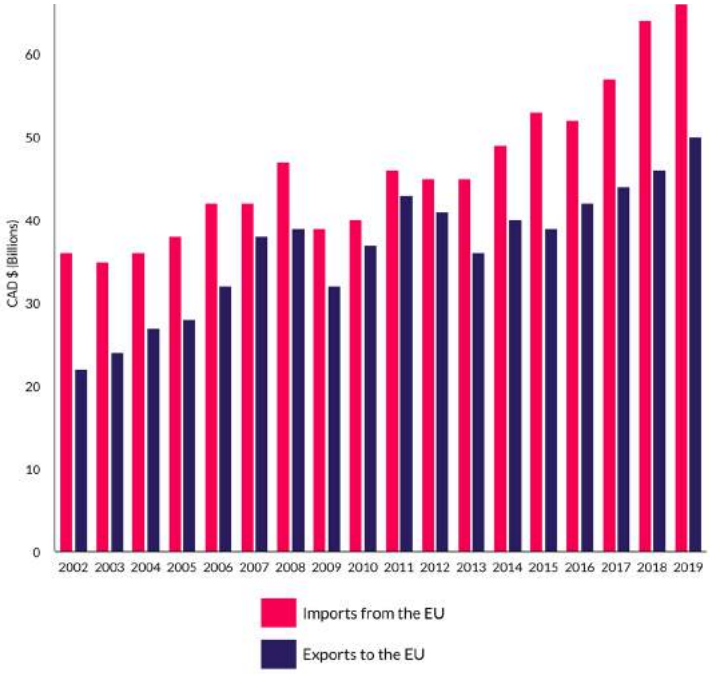
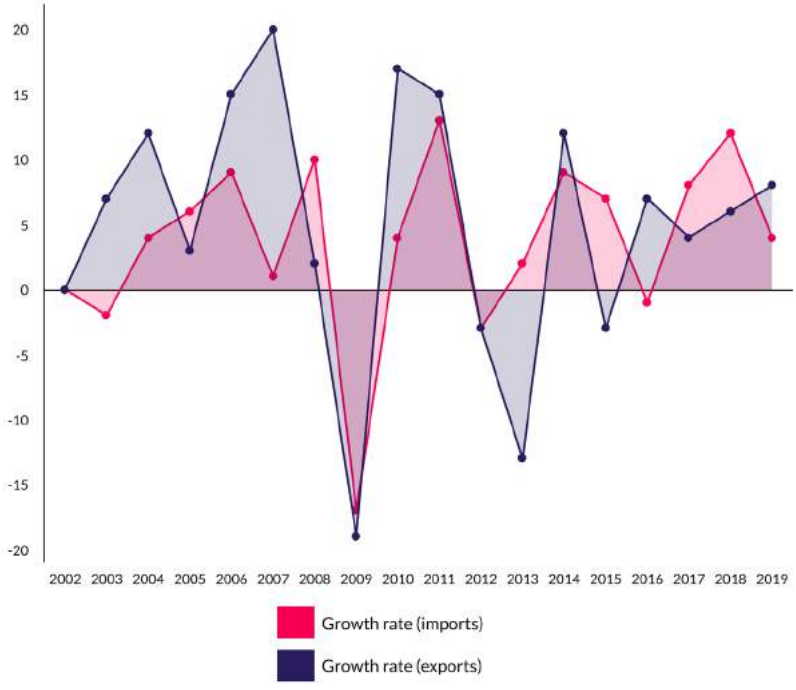


Figure 3: Year-over-Year Growth in Imports and Exports of Goods Between Canada and EU, 2002 - 2019

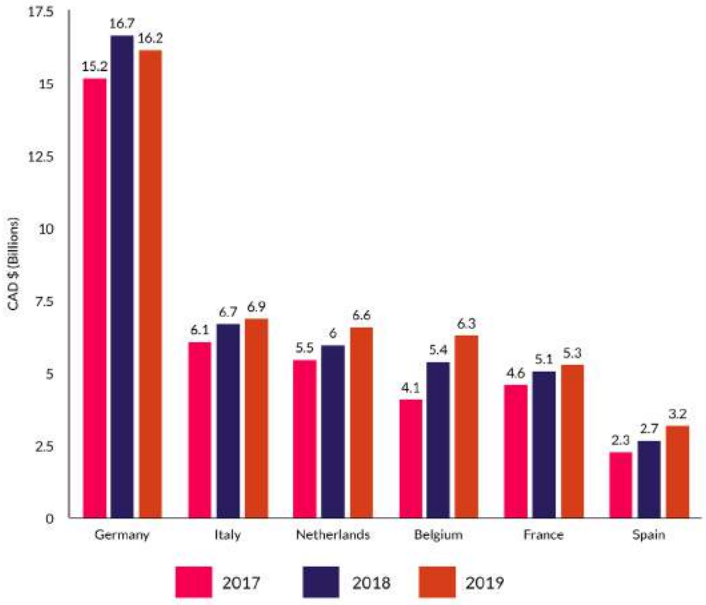
Source: Statistics Canada



Snapshot: Biggest EU Importers & Exporters and Most Significant Sectors for Imports/ Exports in 2017-2019

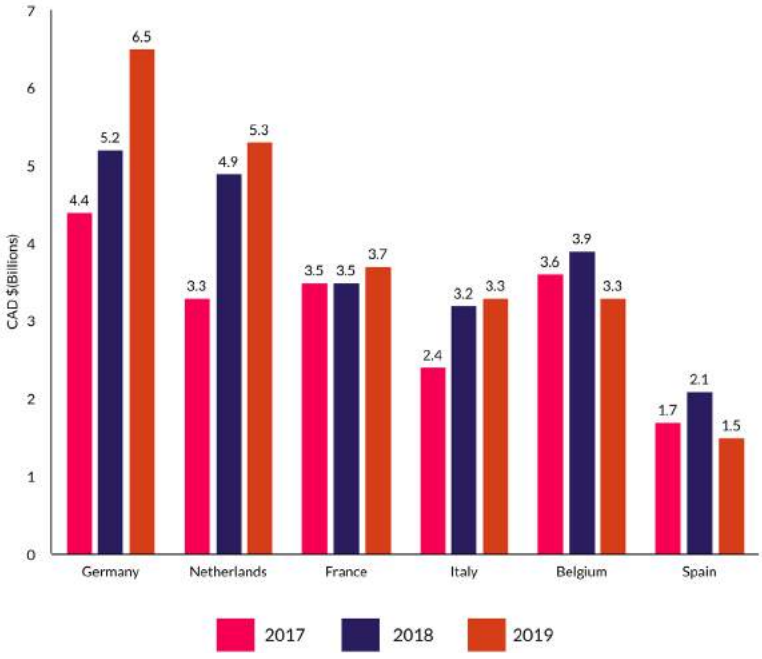
Germany, the Netherlands, and France were the biggest EU *importers* of Canadian goods in 2019. Germany, Italy, and the Netherlands *exported* the most to Canada.

Figure 4: Biggest EU Exporters to Canada, 2017 - 2019



Source: Statistics Canada

Figure 5: Biggest EU Importers of Canadian Goods, 2017 - 2019



Source: Statistics Canada

The biggest total increases in Canadian imports during the 2017-2019 period were seen in Germany (increase of $2.1 billion), the Netherlands (increase of $2.08 billion), and Italy (increase of $952 million).

The type of products *imported from the EU* focused largely on consumer goods, industrial machinery, and vehicles, whereas top *exports from Canada to the EU* were more resource-based (including mineral products and metal ores) followed by consumer goods.

A Focus on the Digital Economy: EU Digital Priority Areas

Although Canadian exports to the EU have traditionally been dominated by natural resources, the rapid growth of the digital economy—in both Canada and the EU—may change this. Numerous tech subsectors are growing in Canada. One example is cleantech, which is expected to employ over 173,000[25] by 2023. The growth of renewable energy industries in Canada aligns well with the EU's digital strategy that emphasizes smart, sustainable, and inclusive growth. According to the Centre for European Policy Studies (CEPS), the future of Europe depends heavily on industrial innovation, which is dependent on mass digitization.[26]

Horizon 2020 is a guiding pillar of digital innovation and the biggest EU research and innovation funding program ever undertaken.[27] This initiative has offers a total of €77 billion in R&D funding to EU digital businesses for the 2014-2020 period. The vast majority (93%) of this funding has been allocated toward three priorities:[28]

1. "Excellent science" initiatives, including funding for collaborative research on emerging technologies;
2. "Industrial leadership" initiatives, including strategic investments in industrial technologies such as ICT, nanotechnologies, materials, biotechnology, manufacturing, and space;
3. "Societal challenges" initiatives, including funding for secure, clean and efficient energy, and smart, green, and integrated transport.

In addition to *Horizon 2020*, the recently announced European Commission initiative *A Europe Fit for the Digital Age* is expected to influence key activities over the next five years (2019-2024). The initiative has the following three objectives:

1. "Shaping Europe's Digital Future" by taking action to ensure that technology adds societal value;
2. "Building Excellence and Trust in AI", which means giving citizens and businesses confidence to embrace AI while encouraging its responsible use;
3. "Implementing a European Data Strategy" to ensure that the EU becomes a respected global leader for a society empowered by data.

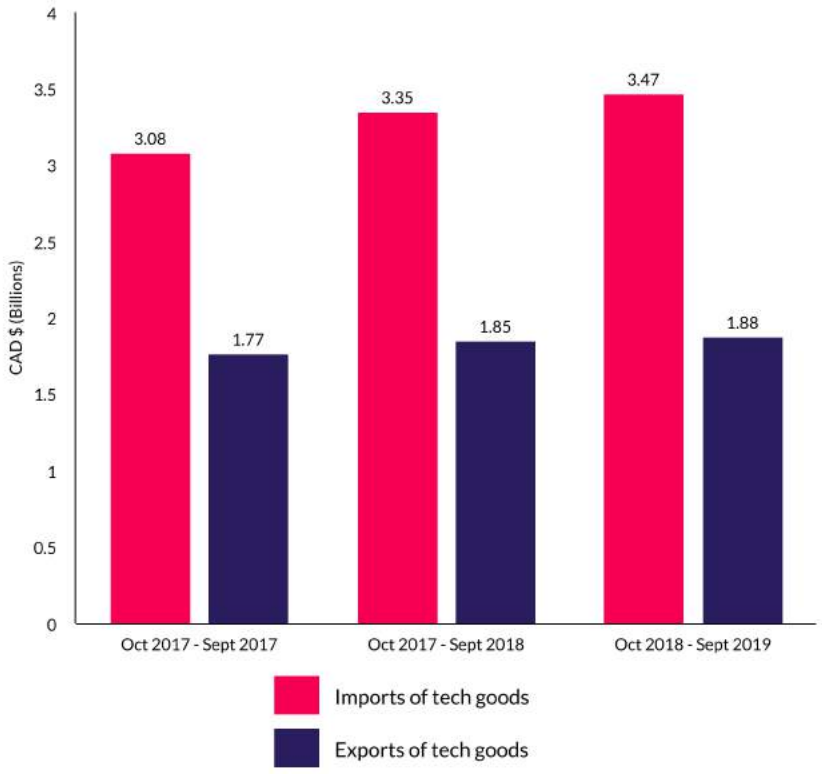
Translating this initiative into action, the EU has developed guiding standards in areas like telecommunications and data protection, and provides incentives for innovation in areas currently lagging.[29]

Technology Imports and Exports: Canada and the EU

Strengthening the digital economy and encouraging innovation is a priority for both Canada and the EU. For the purposes of this research, the analysis of technology goods traded between Canada and the EU is grounded in the definition of technology provided by a grouping of North American Industry Classification System (NAICS) codes.[30]

Technology goods accounted for more than 10% of all Canadian exports; technology goods exported to the EU[31] increased by 6% when compared to pre-CETA period. The EU represents considerable potential for Canadian exporters, but a 2019 survey by Global Affairs found that only 9% of Canadian SMEs were taking advantage of CETA, with only another 17% planning to do so. Over a quarter of all businesses surveyed had never heard of the agreement.[32]

Figure 6: Canadian Exports and Imports of Technology Goods, October 2016 - September 2019

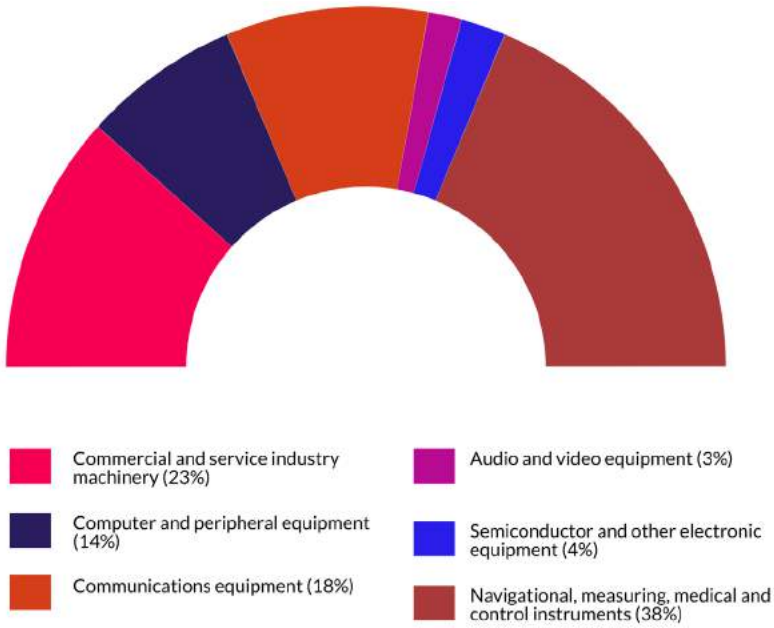


Source: Statistics Canada

Driving these exports was commercial and service industry machinery manufacturing, which increased by $71 million or 20% two years after CETA. Conversely, exports of computer and peripheral equipment from Canada to the EU saw a decline of $66 million during this period.

Figure 7: Canadian Exports to the EU: Technology Goods by Product Group, 2019

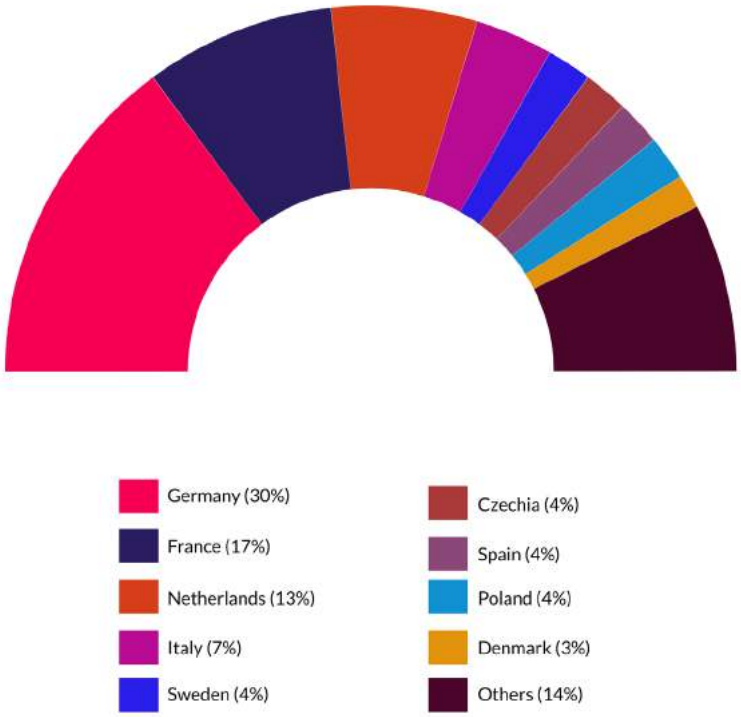
Source: Statistics Canada



On the other hand, Canadian *imports* of technology goods from the EU increased by 13% from October 2017 to September 2019 to reach $3.5 billion. Canadian *imports* of technology goods from the EU accounted for 7% of all imports into Canada. Coinciding with the steep drop in Canadian exports of this nature, imports of computer and peripheral equipment saw an increase of 31%.

Figure 8: EU Country Shares in Trade of Technology Goods, 2019

Source: Statistics Canada



Part II: Boosting Canadian Exports Via a Focus on EU Market Needs

Market Demand in the EU: Digital Services and Products

The EU is the world's largest supranational economy. Its three largest member state economies (France, Germany and Italy) are among the world's top 10 economies.[33] The EU's digital economy is diverse, and the bloc boasts strengths in areas as disparate as advanced manufacturing, fintech, agtech, and health & biotech.

Virtually all globalized industries have at least one leading firm based in the EU, but the EU's achievements in big tech have been modest compared to the US. While several large tech organizations such as Spotify and Skype are based in the EU, there is no European equivalent to the US "Big Four" (Apple, Microsoft, Google, and Facebook). Moreover, although some clusters of digital activity do exist in the EU, the digital economy is much more scattered than that of the US. Silicon Valley is a metonym for the US tech sector, but there are no EU equivalents. The EU's digital economy is spread across all 27 member states, both in large cities (e.g. Paris, Madrid, Barcelona, and Berlin) as well as smaller ones (e.g. Stockholm, Amsterdam, Dublin).

Western, Central, and Northern Europe represent some of the most digitally-integrated regions in the world. In fact, these regions boast a higher level of connectivity and a population comparable even to the US. Mobile phone penetration in the EU has floated at around 120% for over a decade—the highest in the world.[34] The EU also possesses exceptional data and telecommunications infrastructure—eight of the ten OECD countries with the highest data use are in the EU.[35] Reflecting a robust system of infrastructure and higher population density, broadband data is far cheaper than in the US.[36]

Various EU member states have adopted unique strategies to make their national tech industries more competitive. For example, President Macron of France recently announced a series of reforms aimed at enticing tech companies to locate in France.[37] Similarly in the Netherlands, Brexit uncertainty saw many investors looking to Amsterdam instead of London to start or expand initiatives. According to the Netherlands Foreign Investment Agency (NFIA), the Netherlands attracted nearly 400 investment projects from global companies (including tech giants like Google and Rakuten) in 2019, the value of these projects totalling $4 billion Euros.[38]

There are signs that many initiatives to build the EU digital economy are succeeding. During the last decade, the EU's digital economy has grown impressively across a range of measures, including employment, sector value, number of firms, and FDI. As of 2019, there are 99 tech "unicorns" (privately-owned companies valued at over $1 billion) in the EU and the UK, compared to 85 in 2018. These unicorns, while clustered in a few key nations like Germany and France, are found in a total of 18 countries.[39] Europe's supply of talent, a critical component of industry growth and success, is also strong. Totalling 5.7 million professional developers, the EU's supply of tech talent is growing faster than the that of the US.

A total of 78 interviews[40] were completed with industry experts across Europe. Interviews were conducted across industry lines, with top sectors being digital services, advanced manufacturing, health & biotech and fintech. Insights from over 10 EU member states are included, with the most represented countries being the

Netherlands, Germany, and Spain. Together, these interviews highlight the diversified and vibrant EU digital economy, its successes and market needs. Digital solutions are highlighted across numerous areas and clear market needs emerged in spaces like pharmacology, crop management, supply chain management, smart mobility, clean technology, and finance. The following showcases critical considerations gathered from primary insights, accentuating opportunities for Canadian businesses to grow their relationship with the EU, provide solutions to EU market needs, and increase exports to one of the largest marketplaces in the world.

Largest Trade Partners of EU Technology Businesses

The EU's largest trade partners by total balance of trade are the US, China, Switzerland, Russia, and Turkey.[41] However, when it comes to technology, the top five suppliers of products to the EU are, in order of import market share, China (51.6%), the United States (7.9%), Vietnam (7.5%), Malaysia (5.7%), and Taiwan (5.4%).[42] Canada is currently ranked 18th, accounting for 0.4% of the EU's total technology imports.[43]

Echoing this reality, interviews with EU digital business leaders identified that only around half (54%) named countries outside the EU to be among the ones they most frequently trade with; all interviewees named European countries to be among their top trade partners. Overall, the most common trading partners were the large Western European economies such as France, Germany, and the UK, with smaller ones like Belgium, the Netherlands, and Luxembourg also playing a significant role.

Trade Relationship with Canada: How much do EU companies export to/import from Canada

The EU is Canada's second largest trade partner for total trade in goods and services. However, it represents a relatively small portion of trade in comparison to Canada's biggest trading partner, the US. Around 75% of Canada's exports go to the US, while approximately 8% goes to the EU.[44] For Europe, Canada's current status as a trade partner is even smaller. Canada accounts for 2% of the EU's total external trade in goods and services[45] and a mere 0.4% of the bloc's import market share in technology. Comparatively, the US' share, 7.9%, is nearly 20 times higher despite the US economy only being around 10 times larger than Canada's.[46]

There is some early evidence that CETA has strengthened this trade relationship between Canada and the EU. Canadian merchandise exports to the EU have increased by over 9% between 2017 and 2019, although this growth was primarily a result of increased exports to member states that Canada already traded with. Merchandise exports grew the most in the Netherlands (56%), Ireland (41%), Italy (23%), Poland (22%), and Germany (21%).[47]

Recent data shows that trade collaboration with Europe seems to be increasing slowly from humble beginnings, although interest remains higher among EU exporters. Polls suggest that in 2019, two years after the CETA's signing, a mere 7% of representatives from Canadian exporting businesses consider themselves well-informed regarding the agreement. Only 9% of Canadian exporters are currently taking advantage of CETA and 17% are considering using it. Among European companies interviewed, awareness of and inclination to exploit the agreement is much higher; a total of 40% are aware of CETA and another 11% have plans to take advantage of the agreement to expand their trade relationship with Canada.

Two-way knowledge gap: Where does CETA apply?

While EU companies express more direct interest in utilizing CETA, knowledge gaps persist on both sides. This study highlights that many EU digital companies, particularly those in the software development space, believe that CETA applies only to tariffs on goods—they are completely unaware of its application to service exports, or its effect on harmonization of regulations between the tech sectors.

While future collaboration intentions appears promising, current realities are less favourable. Despite positive views of Canada (expressed by over half of all interviewees), namely in relation to the stable economy and "European attitude" toward regulations, most European business leaders interviewed in this study described a limited trade relationship with Canada. Currently, only three of the 41 companies commenting on trade specifically—around 7% of the total—import regularly from Canada. Many businesses stated that their import needs were satisfied within the EU. Only one company specifically noted importing software from Canada, and approximately 6% of businesses mentioned employing Canadians in their organizations, either in the EU or remotely. When asked why their organizations did not do more business with Canada, interviewees tended to respond that Canada was not a priority market, or that they were unaware of the benefits of working with Canada as opposed to other trade partners. Some (approximately 15%) highlighted Canada as a low-priority market due to its small size or distance from the EU.

For the businesses that did name Canada as a major trade partner, their impression of the country as a trade partner appeared largely dictated by commercial needs as well as affinity based on shared values. These companies praised Canada as a valued market and a source of expertise in marketable skills.

For businesses that did not currently have a substantial trade relationship with Canada, but were potentially interested in developing one, the following areas were highlighted as relevant factors in their decision:

- → Finding relevant distributors
- → Enhancing connections with Canadian companies already in Europe
- → Obtaining more information about Canada and its success in various areas of the economy

Notwithstanding the challenges, Canada's trade relationship with the EU has proved relatively resilient during this time of inflamed protectionism. While most countries in the EU have traded with increased trade barriers in 2018, Canada did not. Technology is also one of the sectors with the fewest trade and investment barriers between Canada and the EU.[48]

EU Knowledge and Perceptions of Canada as a Good Trade Partner

Canada and the EU share close ties built through immigration and a shared history. Also shared is an alignment to ideals of peace, liberal democracy and responsible capitalism. Like many Western European nations, Canada has high rankings on a social and economic measures, including the following:

- → Ninth-best on the Corruption Perceptions Index[49]
- → Eighth for economic freedom[50]
- → Third in the Best Countries for Education Survey[51]
- → Second best country to start a business in[52]
- → First for quality of life[53]
- → 10th for ease of doing digital business[54]

Given recent political developments, many Europeans may view Canada's values as more aligned than the United States. In fact, in a separate study completed by ICTC on the European market, Canada's "cultural similarity to the EU" was regarded as a key benefit and a significant motivator for investment from the EU. However, despite these areas of alignment, Canada and the EU have yet to really "find" each other as business partners, a challenge that is especially evident in tech.

Among European tech leaders interviewed on the topic of trade, Canada was mentioned specifically as a primary trading partner by only a handful (9%), and a lack of knowledge of Canada's accomplishments in the digital sector was apparent. Only about a quarter of interviewees reported any knowledge of Canadian innovation in areas such as AI, and this knowledge was almost always superficial (e.g., "AI is very popular in Canada" or "Canada is strong in AI"). Knowledge of Canada's Superclusters or any other pro-tech initiatives from the government was very low, with only 20% of all companies interviewed having even a basic awareness of them. This lack of knowledge was common even among organizations with exposure to Canada through business summits or networking events.

This lack of awareness plays a central role in the trade relationship between Canada and the EU when it comes to technology. The most commonly cited reason for lack of engagement was limited information and understanding of the advantages of doing business with Canada. Small market size, distance from Europe, high living and labour costs, difficulties of navigating differing provincial regulations were also noted. Overall, interviewees said that Canada simply does not have a strong brand when it comes to technology—several interviewees specifically mentioned that Canada does not sell itself well.

Biggest Barriers to Trade for EU Companies

The EU is a massive force for trade inside and outside its borders. In 2018, the value of trade in goods between the EU's 28 member states[55] was EUR 3.518 trillion. Together, China, the US and the EU account for around 45% of global trade in goods.[56] In 2018, the total value of trade in goods between the EU and non-EU countries was nearly EUR 4 trillion.

Despite overall strength of the EU market, at the SME level, many EU businesses—much like Canadian SMEs—also struggle to grow their businesses through international trade. Specifically, a recent report by the European Commission found that many EU-based SMEs face "Technical Barriers to Trade": that is, challenges navigating differing regulatory systems. This single concern—regarded as a key barrier to trade with Canada—was selected by close to 70% of relevant businesses in this study. This regulatory category topped other hurdles like Border Procedures (13%), Price Control Measures (12%), and IP (11%).[57]

Solving the regulatory puzzle: Navigating provincial systems key to trade expansion

Greater insight into Canadian digital economy success stories and enhanced knowledge on the needs of Canadian consumers is important to attract the interest of EU tech businesses. However, EU businesses face challenges navigating different regulatory systems. This is widely seen as a barrier to trade. Clear and easy to access to information on critical policies and regulatory realities for the digital economy at the provincial level may prove valuable for expanding the EU's trade relationship with Canada.

Part III: EU Digital Economy Market Demands

Country Profiles

Germany, France, the Netherlands, and Belgium were the EU's top importers of telecommunications, computer, and information (technology) goods and services in 2018. All showed an increase in digital imports from 2017 to 2018 both as a whole and from Canada. In 2018 the EU's five largest member states accounted for nearly 70% of the value of the bloc's tech sector, with other leading regions like Scandinavia also playing a role. Many of these member states were key countries interviewed in this research. While not intended as a blanket representation of country-based sentiments, the following profiles highlight digital market strengths and needs in the following member states: Germany, France, the Netherlands, Belgium and Luxembourg, Sweden and Finland, and Spain. These overviews can be used to suggest market opportunities for Canadian digital businesses seeking to expand their trade relationship with EU countries.

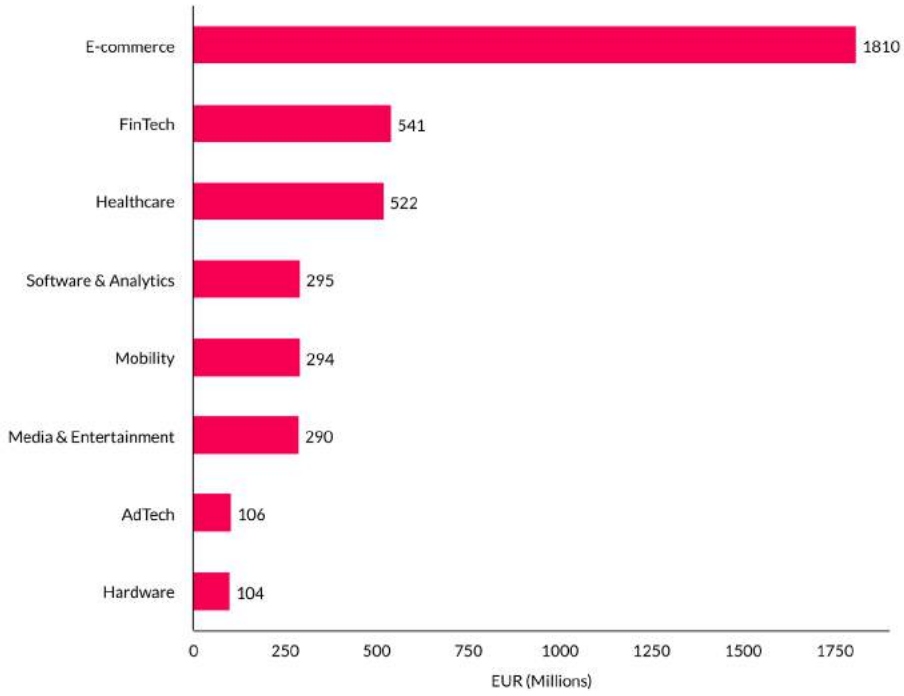
Germany

Germany represents the largest single economy in the EU. It is the largest importer of technology services and is striving to become the leading nation in Europe for digital growth. Germany is pursuing this goal through domestic spending on technology equipment, services, and software (3.3% year-on-year increase in 2016), the formation of its Digital Hub Initiative, and progress in the areas of cloud services, cybersecurity, and AI. Germany also continues to support its Industrie 4.0 initiative, having invested EUR 200 million to date for the project.

The German tech sector is comprised of more than 100,000 companies, providing over one million jobs and generating over EUR 230 billion in annual revenue[58] The sector has doubled in size between 2000 and 2017.[59] German business is widely synonymous with efficiency, quality, and craftsmanship, but in recent years, Germany is also distinguishing itself as a country of innovators; it ranked first on the Bloomberg Innovation Index in 2020 and ninth in the Global Innovation Index in 2019.[60]

Germany's technology market is currently the fifth largest in the world, with strengths in many areas ranging from e-commerce, fintech, healthcare and more. Figure 7 displays the technology areas that received the most investment in 2017 in Germany, with e-commerce leading by a wide margin.

Figure 9: Investment in German Startups, 2017.



Source: Ernst & Young Startup Barometer, 2018

Germany's economy is diversified and vibrant, with successful firms of many sizes contributing to every major sector. With 29 companies in the Fortune 500, Germany is the fifth most represented country on this list after the US, China, Japan, and France. The diversity of Germany's largest organizations speaks to versatility of the wider German national economy; Germany's Global 500 companies are found in areas including telecommunications, transportation, banking, pharmaceuticals, ICT, and air travel. While Germany is home to many companies of long standing, it has taken a bit longer to shine at the startup level. Nonetheless, German startups received a record EUR 6.2 billion of investment in 2019, a funding increase of 36% from 2018. Investment was mostly concentrated in Berlin and Munich. Mobility companies and digital health firms were particularly popular.[61]

Although its size and stability are appealing to potential trade partners, one area where Germany struggles—in comparison to many other EU member states—is connectivity. Germany ranks among the lowest performing countries in the EU for 4G coverage and mobile broadband take-up. The urban/rural discrepancy in fast broadband coverage is especially problematic (66% for rural areas and 88% overall).[62] In many parts of Germany, 3G mobile coverage is still the standard, resulting in slow internet speeds.[63] According to the OECD, only 3.18% of broadband in Germany is carried by pure fibre-optic systems, one of the lowest rates in the EU.[64] As a result, the current German cabinet has committed to subsidizing fibre-optic broadband rollout by 2025.[65]

In this study, German companies represented one of the largest sources of interviewees, making up nearly 20% of all respondents. In addition, Germany was mentioned by seven non-German firms as a major trading partner. Assessing their own trade partners, the German companies interviewed stated that they traded most frequently with other EU countries (especially the Netherlands, Spain, France and Austria), but many were also active in Mexico, South Africa, the US and China. Very few expressed substantial interest in trade with Canada, with the majority (approximately 70%) having relatively neutral perceptions of the country. Around 20% specifically lamented having little to no information regarding business opportunities in Canada, a problem that is further exacerbated by distance.

Lukewarm waters: German tech leaders' perceptions of Canada and opportunities ahead

Most German businesses interviewed expressed little interest in Canada as a trading partner at the current time. Approximately half (50%) were not aware of CETA beyond the mere existence of the agreement—collectively, they were not aware of how it can be used to forge better ties with Canada or expand the trade relationship.

Despite these notable barriers, some glimmer of light exists. Nearly half of German-based interviewees highlighted key strengths associated with Canada, such as the presence of a skilled workforce, and a long history of political stability. Importantly, several German interviewees shared some (albeit, limited) knowledge on what they believed to be growing Quantum Computing clusters in areas like Vancouver and Montreal.

France

France represents the third-largest economy in the EU[66] It is the top importer of telecommunications services in the EU,[67] with the most prominent telecommunications industries being mobile phones and broadband.[68] The mobile market in France is dominated by four main providers: Orange, Altice, Bouygues, and Iliad.[69] Major French telecom companies are also increasingly investing in IoT[70]; for example, in 2018 Orange announced the launch of its LTE-M (Long Term Evolution for Machines) network in France, following the opening of its network in Belgium.[71] LTE-M is technology centred around connected objects, allowing them to connect directly to 4G networks. France has also committed to providing high-speed (30 Mbps) coverage across the nation by 2022, under the Plan for Ultra-Fast Broadband in France ("Plan France Très Haut Débit"). France plans to achieve this mainly through expanding and establishing Fibre-to-the-Home technology. AI is another priority area in the French digital economy. *AI for Humanity,* a report outlining France's national strategy for AI, was released in 2018, suggesting four priority areas for AI application: health, security and defence, environment, and transportation. These are the sectors the French government believes hold the most potential for major AI-based transformation, given France's competitive advantages. The French government is aiming to implement sector-specific policy to support these areas, including testing sector-specific platforms, and implementing innovation sandboxes. Canadian AI companies in these sectors may have considerable advantages if expanding their international footprint to trade and collaborate with France.

Although efforts were taken by this study to ensure equitable representation of businesses across the EU, France was unfortunately very under-represented. Although four (5% of the total sample) interviewees were French, only two were business representatives; the other two were from industry associations. While all four interviewees mentioned Canada (and specifically Quebec) as a favourable trading partner, further research is required to gain France-specific insights. France was mentioned to be a major trading partner by roughly 20% of companies interviewed.

The Netherlands

The Netherlands is a small country with a population scarcely exceeding Ontario's. Nevertheless, the Dutch tech industry includes over 78,000 companies employing 452,000 full-time workers.[72] Leading Dutch tech firms include Adyen, Booking.com, ASML, and Phillips. The Netherlands has a long history of innovation; the inventors of the CD, DVD, Wifi, Python Programming Language, and Bluetooth were all Dutch. The country was ranked first in the EU for "Outstanding Use of IT" in the World Economic Forum Competitiveness report[73] and fourth in the Global Innovation Index in 2019.[74] The Dutch tech industry is centred mostly in Amsterdam, but the small country is heavily urbanized and offers exceptional connectivity in other areas.

Situated on the coast of continental Europe, the Netherlands is on the doorstep of the EU's two largest economies—France and Germany—and exports by sea and land. Excellent linguistic skills (the country ranks first in the English proficiency index[75]) and cultural ties to Canada make the Netherlands a logical business and trade partner. The Dutch are the fourth largest exporters worldwide of technology services and the ninth largest export economy.[76] About 60% of all Forbes 2000 Tech companies have offices in the Netherlands.[77] Netflix and Uber, despite being American, have headquarters in the country.

The Dutch tech sector is diversified, ranging from the latest applications of pre-existing technologies to cutting edge theoretical research. Microsoft recently opened a Quantum Computing Laboratory in Delft, announcing its intention to work with local researchers.[78] Another recent addition is the TechHub at Elsevier Amsterdam, which will work toward increasing the availability of data.[79] Amazon has announced a Dutch marketplace expansion into a general merchandise online store.[80] Successive Dutch governments have prioritized innovation and investment in IT as a main driver of the country's economy; 70% of all Dutch innovation is IT related.[81] The Netherlands' economy is highly diversified despite the country's relatively small size and population; key industries included Agri/Food-tech, Creative Media, Energy, and Aerospace.

Interviews with Dutch tech business leaders in this study accounted for nearly a quarter of all interviews. The Netherlands was also mentioned as a major trading partner by approximately 6% of all respondents from countries such as Spain, Germany, Italy, and others. All in all, over a third of companies reflected in this study are either Dutch or have extensive business operations in the Netherlands.

A long history of partnership: Going digital on Canada's ties with the Netherlands

The Dutch companies interviewed were primarily in the digital services sector, health & biotech, advanced manufacturing, and transportation. While most Dutch companies stated that they were likely to be trading with Germany, France, and "Europe in general," approximately 20% listed Canada as a major trading partner, with others showing interest in developing closer ties. Canadian companies offering solutions in digital services, healthcare, and other areas may have a solid position to expand trade with the Netherlands.

Belgium and Luxembourg

Belgium

Belgium has a total of 10 companies in the 2019 Forbes Global 200. However, Proximus group, a telecommunications provider owned in majority by the Belgian State, is the only technology company on the list.[82] There are several major tech companies active in Belgium, including Google, which has a data centre in the Mons region.[83]

According to Statbel, Belgium's labour force includes 214,000 people employed in the ICT industry. ICT employees represent 4.6% of all employees, which is higher than the European average of 3.7%. Between 2007 and 2017, Belgium's number of ICT specialists nearly doubled. Belgium's ICT sector is highly diversified, considering its small population; 59% of ICT employees worked in industries outside of ICT, with the most common being manufacturing, automotive and vehicle repair, insurance and finance. After Ireland, Belgium ranks second highest in Europe for businesses (10+ employees) employing ICT specialists. Belgium's ICT workers are characterized by their high levels of education and their interdisciplinary nature—75.7% have a higher level of education than the Belgian average. Also unique is the 60.7% of ICT workers who obtained their highest level of education in a field outside of ICT.[84]

Belgium is noted for its extremely devolved system of federal government (Wallonia, Brussels, and Flanders have their own parliaments) and its diverse linguistic groups (Dutch-speakers, Francophones, and German-speakers). Accordingly, much of Belgium's success in the digital domain has been through the regional parliaments. For example, Wallonia has developed a program called the *École Numérique* (Digital School) for teaching digital skills to primary and secondary students.[85] Meanwhile, Flanders represents the country's industrial and commercial heart and is adjacent to the Netherlands. Flanders is noted for its innovation-friendly taxation systems: up to 85% of net innovation incomes can be exempt from corporate tax.[86] Two-thirds of Belgium's startups are based in Flanders.[87] There are large regional differences in the representation of ICT employees in the Belgian workforce; in 2017, 8.3% of employees in the Brussels (Capital) region and 9.9% of Belgian workers abroad worked in ICT, compared to 4.2% of employees in the Flemish region and 2.8% of employees in the Wallonia region.[88]

As a country, Belgium is particularly strong in pharmaceuticals and biotechnology. Belgian companies comprise 23% of the total market value of all public European biotech companies.[89] Belgium has also witnessed an uptick in manufacturing production in recent years, with output increasing by 10% between 2015 and 2018, the highest rate of growth in the EU over that time.[90] Otherwise, Belgium's tech sector boasts clusters in a variety of areas, including Intelligent transport systems, smart products, and multimedia.[91]

Luxembourg

Located next to Belgium, Luxembourg shares many of Belgium's benefits but has an even smaller population of around 600,000 people. Like Belgium, Luxembourg's economy is considerably more tech-focused than the European average. About 24% of Luxembourgish companies of more than 10 people employ ICT specialists, compared to the EU average of 20%. ICT specialists represented 5.6% of total employees in Luxembourg in 2018, placing the country fourth after Finland, Sweden, and Estonia. This is considerably ahead of the EU average of 3.9%.[92] Luxembourg's involvement in tech has also increased notably in just the last 5 years; between 2014 and 2019, the portion of businesses employing ICT specialists increased from 20% to 25%.[93]

Nevertheless, the ICT sector's share of Luxembourg's economy decreased from 6.4% to 3.9% between 2011 and 2017. This hints that most of Luxembourg's progress in ICT has been through technical applications to areas outside of ICT, particularly finance; over the same time, the Finance and Insurance sector grew from 26.4% to 28.1% of the country's GDP.[94] Notable growth was especially witnessed in new areas like fintech and green finance.[95] The Luxembourgish government has invested in key developments like Digital Lëtzebuerg[96] (including a EUR 20 million investment fund) and the Luxembourg ICT Cluster.[97]

Luxembourg was recently rated the 11th most competitive economy in the world,[98] and eighth in Global Talent Competitiveness.[99] The country boasted the second highest per-capita productivity in the tech sector, after Ireland and placed 10th worldwide in the Global Innovation Index. The European Commission's DESI 2019 Economy and Society Index ranked Luxembourg as the sixth most competitive digital economy in the EU.[100] The country's scores were particularly high in connectivity and human capital but lower in the integration of digital technology. Luxembourg has several benefits that allow it to make up for its small size as a tech power. It is centrally located, bordering Belgium, Germany, and France. It is one of the four capitals of the EU, giving it an enviable attraction for skilled professionals from all over Europe. And its exceptional per-capita wealth (it is ranked second in the world for PPP GDP per capita[101]) allows it to invest ambitiously in new ventures.

Belgium and Luxembourg were well-represented in this study, with approximately 18% of the interviewed companies located in this region. Sectors represented by these two nations include digital services, manufacturing, and health and biotech. Belgium and Luxembourg were listed as major trading partners by over 10% of interviewees.

Biotech in Belgium & Luxembourg: an entry point for Canadian trade

Nearly 30% of all Belgian companies interviewed expressed being current trade partners with Canada. For these companies, perceptions of Canada were very positive—both as a country in general, and as a future trading partner. Areas of high interest in relation to Canada were digital services as well as health and biotech.

A similar sentiment was echoed by Luxembourg-based businesses; although none were currently trading with Canada, strong interest was expressed in forging ties, namely in the biotech space. One Luxembourg-based biotech business noted plans to establish a business relationship and to commence two-way trade with Canada imminently.

Sweden and Finland

Sweden

Sweden is distinguishing itself as a major tech hub in the EU. As a share total GDP, Sweden's tech sector was third highest, after Ireland and Malta. Sweden boasts a strong culture of innovation; only ten other countries hold more patents than Sweden in the US patent office.[102] Stockholm places just behind the region of Silicon Valley for the number of "unicorns" (tech startups valued at over $1 Billion) per capita,[103] with major Swedish startups including Spotify, the world's largest music-streaming service, as well as Skype.

Sweden also has notable strengths as a potential business partner. It is ranked as the seventh most competitive economy in the world in 2018[104] and 10th easiest country in the world to do business with in 2019.[105] Sweden was rated the world's fifth most innovative economy in the 2020 Bloomberg Innovation Index, and placed second in Global Innovation Index in 2019. Recently, Sweden's Klarna became the biggest fintech firm in Europe, with a valuation of $5.5 billion USD.[106] Another fintech platform called Tink, which allows banks to develop their own data-driven financial services, has just raised EUR 90 million to complete a market expansion strategy.[107] Swedish startups are well-connected to central Europe and often partner with major firms; examples include a partnership between Digital Therapeutics' company SideKickHealth and Bayer. This partnership was forged to create a digital management and lifestyle change platform for patients suffering from Peripheral Artery Disease.[108]

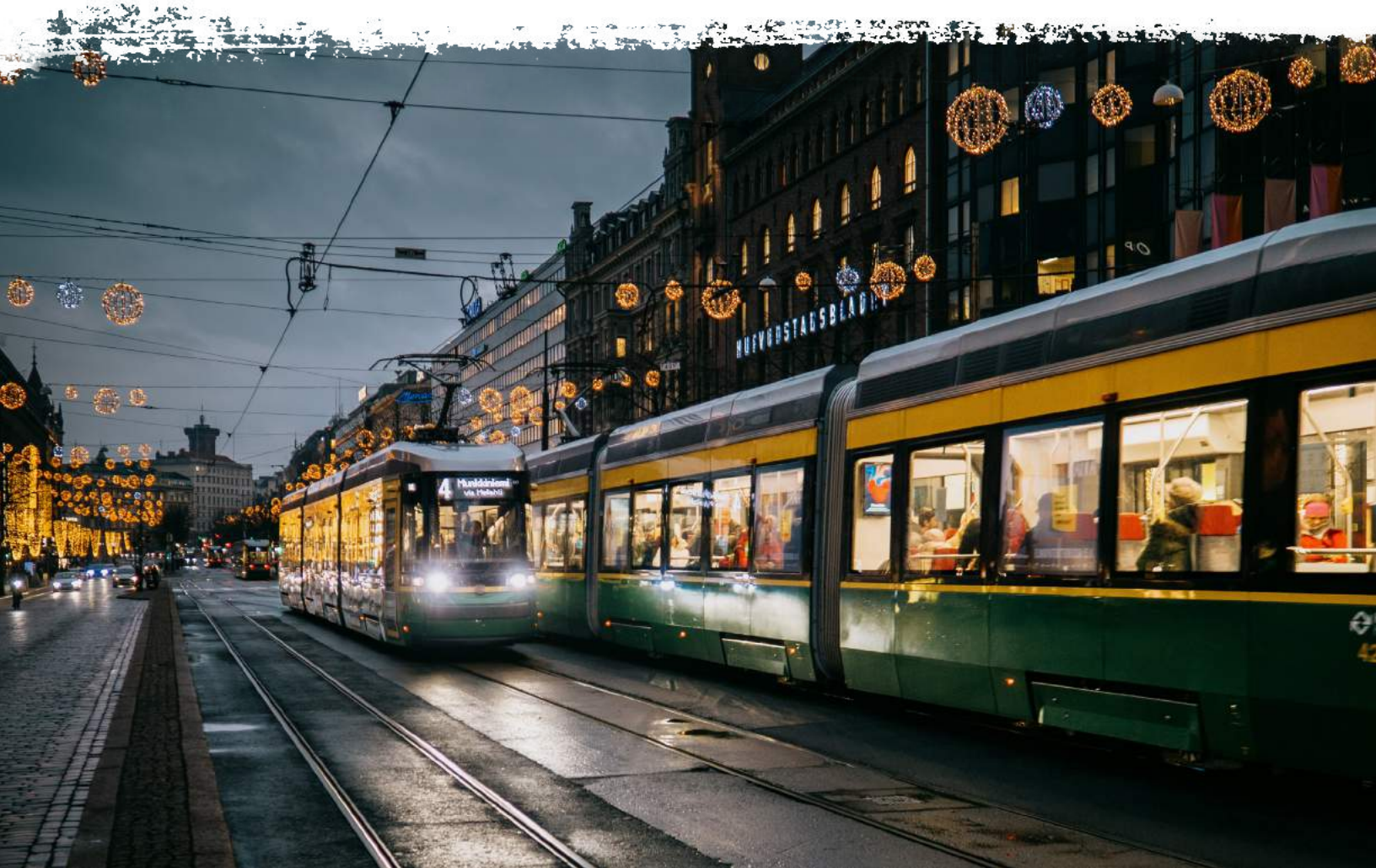
Although no interviewees directly mentioned Sweden as an important trade partner, two interviews conducted with Swedish businesses found growth opportunities in various tech industries across the country. Smart transport, health and biotech, and advanced manufacturing were highlighted, along with fintech. In fact, Sweden is a long-standing world leader in fintech: two of the country's six unicorn startups, Klarna and iZettle, are rooted in this sector.[109] Neither business interviewed currently trades with Canada, but there was interest in exploring a potential relationship in the future.

Finland

Another small tech-focused country in Scandinavia, Finland is the birthplace of Nokia, one of the world's 500 largest organizations. The tech sector accounts for over 50% of Finland's total exports and more than 70% of all the country's R&D investment. An estimated 700,000 people in the country (nearly 13%) work directly or indirectly in the tech industry.

Finland's assets as a potential partner are numerous. The Finnish educational system is regarded as one of the best in the world[110] and Finland was rated as the seventh-most innovative country in the world in 2020. Finland also placed sixth in the 2019 Global Innovation Index and is in the top 30 countries in the European Commission's 2019 DESI rankings.[111] Finland's tech industry areas that have recently drawn the most investment include cleantech, biotech and digital services.[112]

Like Sweden, no interviewees identified Finland as a major trading partner. Two interviews conducted in this study were with Finnish companies; one was in the digital services space, the other in fintech. Neither identified Canada as a current trading partner and interest in strengthening ties was mixed. The digital services business noted the possibility of considering Canada as a market for exports in the future, while the fintech company was reluctant to do so. However, the reasoning behind the latter had little to do with Canada specifically; the company only noted a desire to establish its first North American presence in the US.



Spain

Spain is Europe's fifth largest economy and its sixth most populous member state. It ranks 10th in Europe in the Digital Economy and Society Index for 2019.[113] Spain's technology market, valued at EUR 108 billion, includes 34,000 companies and nearly half a million workers. The sector is diversified, with key areas including digital services, cleantech and fintech. In 2017, Spain's tech sector represented over 4% of the country's GDP. [114]

The wider Spanish economy has strengthened in recent years, growing at a rate of 3.2% in 2016, compared to about 2% growth for the EU in the same year. Process improvement and digital transformation were two key contributors to this growth, with tech investment seeing large-scale support. A survey of Spanish executives across sectors found that nearly 65% identified technology tools as their first investment objective.

Like Belgium, Spain has a decentralized form of government reflecting differences in language and culture; there are 17 Autonomous Communities whose parliaments wield substantial financial and cultural influence. The dominant centres for tech in Spain are Madrid, Catalonia, and the Basque County.

Barcelona, the capital of Catalonia, has been called the fourth tech city in the world and is arguably the heart of Spain's tech industry.[115] From 2014 to 2018, the Catalan tech industry registered 167 FDI projects, a 96% growth compared to the previous five-year period. Catalonia is the leading region in Spain for tech based FDI, receiving 43% of FDI projects, 23.4% of total investment, and 44.7% of total technology job creation.

Nearly 17% of interviews in this study were conducted with Spanish companies, representing the digital services industry, followed by cleantech and fintech. While four interviewees mentioned Spain as a key trading partner, unfortunately no Spanish company highlighted Canada as a significant partner or showed any intent to enhance the relationship.

Conclusion

CETA is considered to be one of Canada's most fruitful trade initiatives since NAFTA. However, two years following its ratification, Canadian imports from the EU increased by 11%, whereas Canadian exports to the EU expanded by less than a 4%. Uptake of CETA and its benefits remains mild in Canada, with EU businesses are leveraging its value more readily and more effectively. Although Canada is globally recognized as having a stable political system, a growing digital economy, and significant cultural similarities to Europe, this has not translated into an equal trade partnership in the tech space.

As noted by interviews with leading EU tech businesses, interest in Canada exists, but strengthening trade ties is not currently a top priority. Many businesses specifically highlighted that Canada was relatively invisible in the EU. They noted that growing the trade relationship would require Canada do a better job of marketing itself, emphasizing its accomplishments in the digital economy, and clarifying the advantages of doing business with Canada. The relationship can also be strengthened by providing precise and understandable information to potential EU business partners on how Canada's regulatory systems differ between provinces and how they can be effectively navigated.

The EU's digital economy is vibrant and diversified into areas such as biotech, fintech, cleantech, and advanced manufacturing. Each of those areas present market opportunities for Canadian digital businesses that offer solutions to meet key market needs. Strengthening ties with the EU, one of the largest marketplaces in the world, will be an essential milestone for Canada on its pathway to growing its digital economy and competing internationally. CETA can and should be leveraged to achieve this goal.

Appendices

I Research Methodology

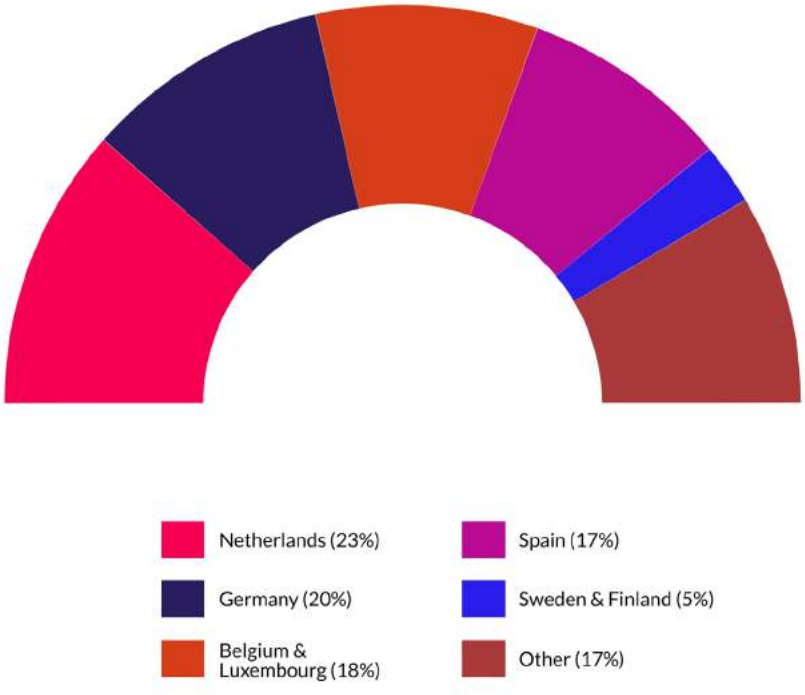
The research methodology used in the development of this study consists of a combination of primary and secondary research.

Primary research

A total of 83 key informant interviews (KIIs) were conducted with senior leaders at European technology-based businesses (78 KIIs) and associations (5 KIIs). Key informants were asked a series of questions to understand how companies are taking advantage of CETA, their knowledge of the clusters of innovation in Canada, their awareness of investment opportunities in Canada, and perceptions of Canada as an attractive business partner. In addition, 41 of 78 interviewees were also asked a series of questions related to their trade relationship and trade intentions with Canada.

The 78 KIIs with businesses were conducted across the EU, with a focus on the Netherlands (18), Germany (16), Belgium and Luxembourg (14), Spain (13), Sweden and Finland (4). The remaining 13 interviews were completed with a mixture of other EU countries.

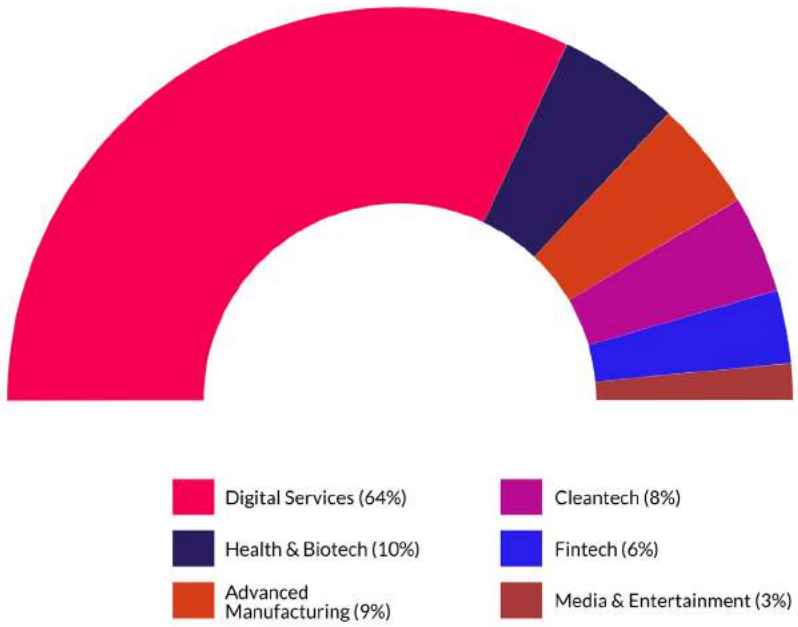
78 business key informants: Country representation



Source: ICTC, 2019

These 78 key informants represent businesses specifically were found in five main sectors: digital services (50), health & biotech (8), advanced manufacturing (7) cleantech (6), fintech (5) and media & entertainment (2).

78 business key informants: sector representation



Source: ICTC 2019

Secondary research

The secondary research for this study focused on an analysis of existing data and literature, including but not limited to Horizon 2020, EuroStat, the OECD, and Stats Canada.

II Limitations of Research

While ICTC attempted to ensure the research was as exhaustive as possible, a few limitations exist.

Small sample size: Even though a higher number of key informant interviews were completed than originally intended, the sample pool remains relatively small. This means that responses do not represent objective "trends" of the entire EU market. Instead, they should be taken as insights associated with a specific period in time (end of 2019).

Lower than desired representation of some sectors and EU countries: Additionally, ICTC had originally targeted higher representation from certain countries and sectors. ICTC aimed to obtain more representation from France and Scandinavia because of their advancements in the tech sector and overall relationships and opportunities with Canada. ICTC also initially targeted higher representation from the media and entertainment sector because of its strong presence in Canada, specifically in Vancouver and Montreal. Despite extensive outreach to engage businesses from the above noted countries and sectors, interest and availability dictated the final number of participants.

III Key EU Exporters

The Netherlands[116] [117] [118]

Digital Services: Netbasics, IntoApps, Kabisa, Webuildapps, Formatics, IBM (intl), HP (intl), Deloitte (intl), KPMG (Intl), KPN, Ordina, AVG Technologies, BWise, EceIticIQ

Media: E-sites, IJsfontein, This Page Amsterdam, Superhero Cheesecake, One Shoe, Avot Media

Fintech: Adyen

AgTech: AppsforAgri

Advanced Manufacturing: ASML Holding, NXP Semiconductors[119]

Germany[120] [121]

Digital Services: Rocket Internet, Debut Infotech, Redwerk, Intetics Inc, Elinext (US), SAP Software Solutions, 8man, Anti Hacker Alliance, App-Ray GmbH, AV-Test, Avira, Beta Systems, Boxcryptor, Brainloop, Cybits, Detack GmbH, DriveLock

Advanced Manufacturing: Bosch, Infineon Technologies, Digitronic Comptersysteme GmbH.

Sweden[122]

Digital Services: Ericsson, Klockren Software, Hoist Group, Tradedoubler Worldwide. Nexus Group, Fingerprint Cards AB, Behaviosec, PrimeKey Solutions, Keypasco, Clavister, Precise Biometrics AB

Media and Entertainment: Spotify

Finland [123]

Digital Services: 65Security, Accenture, Arctic Security, Nokia, Atos, Cybercom Group, Vincit, Aurora Digital OY, CodeLine OY, Net Group, Nortal, Futurice, Siili Solutions, Knowit, BaseN, Bittium, K, Eficode, Gofore, Solinor, SSH Communications Security, Wunder, Lamia, Taiste OY, Qvik, Avenis OY, Make Helsinki.

Advanced Manufacturing: Airbus Defence and Space

Belgium[124] [125]

Digital Services: Comparex, Fujitsu Belgium, Contraste Europe, Cegeka, INNOVA, RHEA System

Advanced Manufacturing: Mono-France, Nuvia, HP Belgium, Huawei Belgium, Intel Belgium

Luxembourg[126]

Digital Services: Skelia, O2XP, Altran, EASI, AkaBI, Methys, Netregie, Globant, Wavestone Advisory, Sonn PSF, Luxidentity, Silent Breach

Media: Explose, Midori

Spain[127]

Digital Services: Neurored, Opinov8 Technology Services, Intelligence Partner, Develoop Software, Plusinfosys, EGO Creative Innovations, Cocomore AG

Media: Agosto

Advanced Manufacturing: Semefab, Sierra Instruments Inc, Swan Analytical Instruments (US), Horiba[128]

France

Digital Services: Dassault Systemes, Atos, Capgemini Consulting

Denmark[129]

Digital Services: EET Group, CSC Danmark, Corning Optical Communications, Secunia, Nokia Solutions and Networks Danmark, Globalconnect, HP, Prysmian Denmark, Microsoft Danmark, KMD, Tradeshift, Vivino, Gaest.com, Botxo

Media and Entertainment: DPA Microphones, GN Audio, Blackwood Seven, KUBO robot, Airtime, Tatoodo

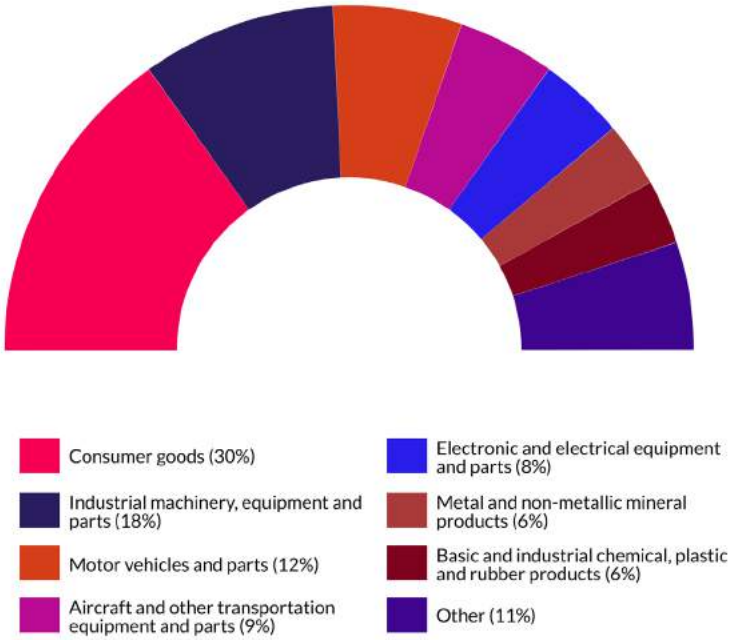
Fintech: Pleo, Lunar Way

Ireland[130]

Digital Services: Trend Micro, Trustev/TransUnion, Cylance, eSentire, FireEye, Malwarebytes (US), McAfee, AlienVault, Sophos (UK), Smarttech, Keeper Security, Accenture

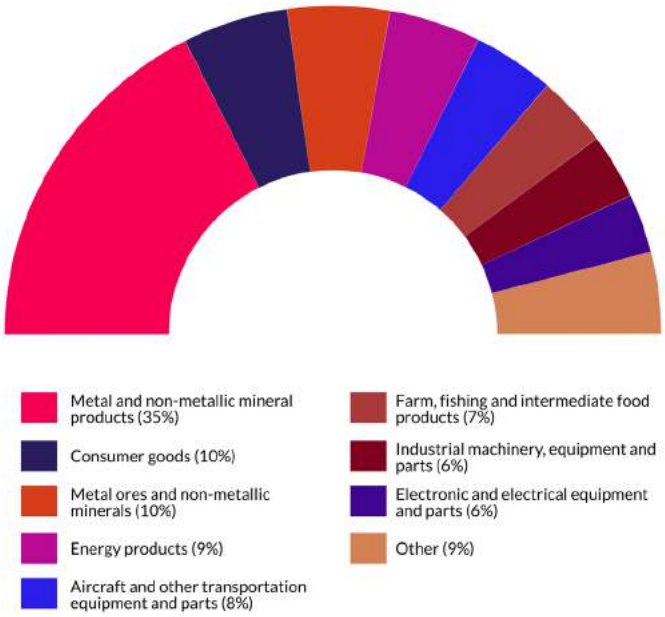
IV Additional Figures

Shares of Goods Imported to Canada (All Countries), 2019



Source: Statistics Canada

Shares of Goods Exported from Canada (All Countries), 2019



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