

FINLAND-U.S. ECONOMIC DEEP DIVE 2024

Annual Survey of Jobs, Trade and Investment between Finland and the United States



Partners:





Nordea

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INTRODUCTION FROM AMCHAM FINLAND

Alexandra Pasternak-Jackson CEO



The relationship between Europe and the United States is the foundation of the global economy. This relationship extends beyond commercial exchanges, embracing a wide range of arenas from defence agreements to technology partnerships. We are united by the values of rule of law, democracy, human rights, and a mutual dedication to building a better future for the world.

To highlight the importance of the relationship between the U.S. and Europe, Amcham Finland has co-sponsored the <u>Transatlantic Economy 2024</u> report, authored by Dan Hamilton and Joseph Quinlan at Johns Hopkins University's School of Advanced International Studies and the Transatlantic Leadership Network. The report presents the most up-to-date facts and figures about the state and dynamics of this crucial economic relationship.

In this fourth annual iteration of the Finland-U.S. Economic Deep Dive 2024 report, we offer our readers a digest of the Transatlantic Economy report through the lens of the Finland-U.S. relationship. It also features analysis by Nordea economist Juho Kostiainen, as well as contributions from Finland's Minister for Foreign Affairs Elina Valtonen and U.S. Ambassador to Finland Douglas Hickey. The combination offers an examination of the deep economic connections between our two countries, highlighting areas of progress and opportunities for future growth.

The connections between Finland and the U.S. continue to go from strength to strength. Collaborating on issues ranging from climate change and cybersecurity to defence and technology, the bilateral relationship serves as a cornerstone of stability and progress in an ever-changing world. As two nations committed to innovation and progress, Finland and the U.S. continue to strengthen their ties, addressing shared challenges and seizing opportunities for mutual growth. We are proud to support our members and the role they play in our shared transatlantic success story.

Sincerely,

Alexandra Pasternak-Jackson

Editor's note: The Transatlantic Economy report uses data reported by the U.S. government, while the Nordea analysis in this report is based on Finnish government statistics. Discrepancies between the two are normal and expected.

Amcham Finland is the voice of international business and home of transatlantic success in Finland. We serve as a platform for business to learn, connect, collaborate, and make a difference in the transatlantic relationship. By facilitating networking events and roundtables, we build bridges, foster economic growth and partnership, and help shape policies that benefit business and promote economic cooperation.

GREETINGS FROM THE U.S. EMBASSY IN FINLAND

Douglas Hickey, Ambassador



Over the past year, it has been my honor to host an unprecedented number of high-level U.S. delegations, highlighted by President Biden's inaugural visit to Helsinki. During his visit, President Biden remarked on the critical juncture we face in history, emphasizing that our current decisions will shape the future for decades to come. He underscored the excellent partnership between Finland and the United States, noting our collaborative efforts with allies and partners to embark on a path that promises greater strength, security, and stability. These engagements have strengthened the bond between our two nations, reinforcing our shared commitment to security cooperation, the promotion of free trade and technological innovation, and the pursuit of clean energy solutions.

Indeed, the bilateral relationship between the United States and Finland is closer than ever, highlighted by the signing of a bilateral Defense Cooperation Agreement during Finland's inaugural year as a NATO Ally, and evidenced through multiple bilateral and multilateral agreements on energy, science, and technology cooperation. This mutually supportive partnership is sustained across multiple domains, not only in the security sector but also in the realm of the economy, trade, and technology.

Due to Finland's strategic location in Northern Europe, its commitment to democratic values and rule of law, as well as its innovative spirit, the country is a like-minded partner of the United States. Both countries possess dynamic economies and a focus on technological innovation that allow them to advance common goals, address global challenges, and seize emerging opportunities. In 2022, the bilateral trade relationship between the United States and Finland for goods and services reached almost \$15 billion. Over the last two years, the United States and Finland formalized cooperation in quantum computing, wireless communications, and biotechnology. As a result, there are new investment opportunities for U.S. companies in multiple sectors, including energy, information, and communication technology (such as 6G, AI, quantum, and cybersecurity), and aerospace and defense.

Furthermore, Finland is the second-fastest growing source of Foreign Direct Investment (FDI) in the United States. The U.S. Government SelectUSA (SUSA) program promotes and facilitates Finnish business investment in the United States. Since its inception, SelectUSA has facilitated more than \$200 billion in investment, creating and/or retaining over 200,000 U.S. jobs. The premier event of this program is the annual SUSA Investment Summit, which will take place this year from June 23 to 26. I look forward to leading a delegation of Finnish companies to the SUSA Summit, underscoring U.S. dedication to deepening ties and fostering mutual growth with Finland.

Amcham Finland and its membership play an important role in nurturing and supporting the bilateral commercial relationship between the United States and Finland. The Transatlantic Economy Report 2024 is an important symbol of the power of the U.S.-Finland commercial partnership, and it highlights our commitment to work, innovate, and grow together to achieve a common goal: a bright and prosperous future for both the bilateral and broader transatlantic relationship.

Best regards, **Douglas Hickey**United States Ambassador to the Republic of Finland

GREETINGS FROM MINISTRY FOR FOREIGN AFFAIRS OF FINLAND

Elina Valtonen, Minister for Foreign Affairs



In a world full of uncertainty, the value of having trusted friends and partners is more important than ever. The bilateral relationship between Finland and the United States has further strengthened during the past years while we have faced a very challenging geopolitical landscape. We are friends, partners and now also allies. The Finnish government puts great emphasis on strategic partnerships, which are crucial for nurturing our security and prosperity.

We were delighted to welcome President Joe Biden and Secretary of State Antony Blinken to Finland last summer. These visits underscored the willingness to advance collaboration on many fronts. In December, we signed a Defence Cooperation Agreement (DCA), which creates an updated framework for our bilateral defense cooperation and enables us to cooperate in all security situations. Security and defense cooperation also opens up significant new possibilities to develop commercial and technological relations.

Finland brings to the table unique expertise in critical technologies from connectivity to quantum and space to green energy. Our government places a specific focus on strengthening cooperation in emerging technologies with the United States. Our aim is to strengthen ties between Finnish and U.S. companies, researchers and students as well as work together on international fora for example in standard setting. We need to ensure that the development of critical technologies is based on democratic values and respect for human rights.

Trade between Finland and the U.S. continues on a strong positive path as this year's Finland-U.S. Economic Deep Dive clearly demonstrates. As geopolitical risks have risen, the importance of the U.S. market for Finnish companies has grown in importance. We need tight and forward-looking transatlantic cooperation if we want to enhance economic security, address strategic dependencies and vulnerabilities and strengthen supply chains, which are critical also for the green transition. We should not build new barriers to trade in Europe or across the Atlantic, but instead focus on how we can facilitate trade and improve cooperation. The EU-U.S. Trade and Technology Council is a good example of this.

The true strength of a relationship is measured by how well partners work together in difficult times and continue to build and innovate. I am confident that there is a lot more that we can do together and that there is a shared interest to deepen cooperation further. This requires work at all levels from political leaders to business, academia and stakeholders at large. We need to encourage people-topeople connections, develop academic and research exchanges and strengthen cooperation also on a regional level. Organizations such as Amcham Finland play a vital role in this regard, by bringing stakeholders together and highlighting the importance of the Finnish-American relationship.

Best regards,
Elina Valtonen
Minister for Foreign Affairs of Finland

THE ECONOMIC RELATIONSHIP BETWEEN THE U.S. AND FINLAND

Juho Kostiainen Economist, Nordea



Economic outlook for Finland

The fall of 2023 ushered a recession into the Finnish economy. Higher interest rates have severely impacted the economy through homeowners' floating-rate mortgages. This has further weakened households' purchasing power, which has been hurt by high inflation in recent years. The increase in interest rates has also weighed on housing sales and, consequently, residential construction. Other investments have remained rather stable in Finland despite higher interest rates, although low investment appetite globally has adversely affected Finnish exports. The collapsed trade with Russia and weak economic growth in Europe have also hampered Finland's export sector. Finland's real GDP contracted by 1 percent in 2023 compared to the previous year.

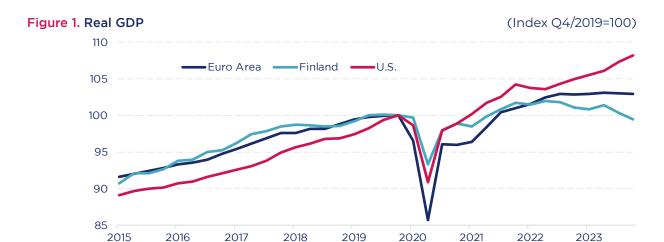
The deteriorating state of employment and uncertain economic outlook spells a continuation of sluggish domestic consumption for the first half of the year. Rebalancing the overheated construction sector will weigh on economic growth this year also. The Finnish economy is therefore expected to record a second year of contracting GDP in 2024.

Economic conditions in Finland are expected to improve towards the end of this year, however. The recovery is foreseen to be driven by enhanced global demand and improved domestic purchasing power. The expected decline in interest rates, the drop in inflation and rising wages are anticipated to boost domestic consumption and investments. We therefore expect the economy to turn to growth in the latter half of this year and we anticipate that GDP growth will accelerate to 2 percent in 2025.

Finland's public finances are expected to deteriorate further this year as the economy contracts. Consequently, the current government has already taken consolidation measures to balance public-sector spending and halt the growth of government debt. The announcement of more spending cuts and tax hikes to balance public finances will likely be in the cards this year. Changes in labor market legislation have caused unrest among trade unions, with a series of political strikes this year.

The U.S. economy has coped better with higher rates and inflation. GDP increased by 2.5 percent last year driven by domestic demand. U.S. growth is set to slow down this year, as the lagging impact of previous monetary tightening measures bites. No recession is in sight, however. Excess savings of households from the pandemic era are running out, although real purchasing power is again on an upbeat trend, which should support consumption growth ahead. Inflationary pressures have fallen significantly. There are downside risks, however, not least in light of important elections in November.

Finland's NATO membership and defence cooperation with the U.S. have provided a much-needed safeguard for Finland in the current tense European landscape. While the economic impact of NATO membership is difficult to gauge, Finland's security level is now most certainly stronger than it would have been without NATO membership. Moreover, Finland's defence industry now has access to a much wider range of procurement programs than before.



Sources: Nordea and Macrobond

Figure 2. Inflation

12

10

U.S. Euro Area Finland

6

4

2

0

2020

Sources: Nordea and Macrobond

2017

Trade between Finland and the U.S.

2018

2019

Trade between Finland and the U.S. has remained lively despite the weakening of the Finnish economy. The U.S. was Finland's biggest export partner in 2023 for the second consecutive year, with a slight margin to Sweden. Goods exports increased from the previous year, backed by the delivery of the world's largest cruise ship, the Icon of the Seas. For the first time, the U.S. became Finland's largest goods export partner in 2023.

2021

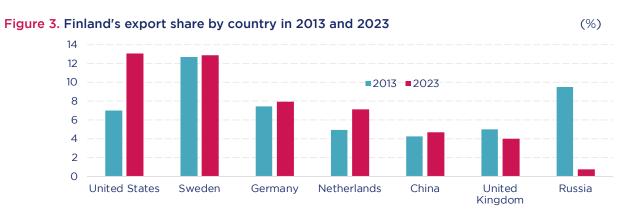
2022

2023

2024

Service exports from Finland to the U.S. declined in 2023 in relative and absolute terms. The U.S.' share of Finland's total service exports declined from 20 percent in 2021–2022 to 15 percent in 2023. The decline in service exports was driven by weaker ICT service exports. However, the U.S. remained the most important service export destination for Finland, just ahead of Sweden.

Finland's imports from the U.S. continued to increase in 2023 within both goods and services, to a combined amount of 6.7 billion and making up 5.8 percent of total imports.



Sources: Nordea and Macrobond

Finland's total exports declined by 1.7 percent in 2023, while total imports declined by 7.1 percent. The current deficit narrowed to 4 billion in 2023 (-6.5 billion in 2022). Net exports of services weakened from the previous year. The decline was explained in particular by weak developments within telecommunication, computer and information services, and increased foreign travel of Finns recorded as travel imports. The goods account improved as the value of energy imports fell due to lower energy prices and increased domestic production from a new nuclear power plant and expanded wind power capacity.

In discussions on Finland's trade with the U.S., comparisons to China are often raised. China's share of Finland's total exports was 4.7 percent last year. China is Finland's fifth most important export destination. With a 9.0 percent, share China is Finland's third-largest provider of imports after Sweden and Germany. Machinery, equipment, and electronics account for the bulk of Chinese imports. The value of goods imports from China contracted by 18 percent last year. The sluggish imports figures are mainly a reflection of Finland's weak economy and a flattening of the post-pandemic boom in goods demand. In comparison to the U.S., Finland's trading relationship with China has not grown as significantly.

Figure 4. Finland foreign trade, exports to the U.S.

(€, billion)



Sources: Statistics Finland, Nordea, and Macrobond

Finland's services trade

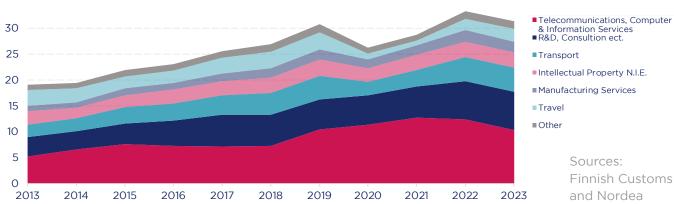
Finnish exports of services are more concentrated than those of many other peer countries, according to the Etla study. In recent years, around 40 percent of all service exports were ICT services, whereas in other Nordic countries service exports are more geared towards other sectors. This is more pronounced in service exports to the U.S., where around two thirds of total service exports are ICT services. Other substantial exports to the U.S. are intellectual property rights at 16 percent and research and development services at 7 percent in 2023.

ICT services include numerous types of services. Unfortunately, statistics are rather aggregated and do not allow deeper-level analysis. However, we know that a strong technological foundation in Finland has produced many smaller ICT companies after Nokia's dominance. The gaming industry is one example, although there are multiple software houses that produce niche B2B products.

Service imports directly from the U.S. amounted to 3 billion in 2023, which is less than a half of Finland's service exports to the U.S. However, many U.S. companies are using Irish subsidiaries in the EU, and service exports from Ireland to Finland amount to 2.5 billion. If these two are counted together, the largest import items concern consultancy (20%), trade services (20%) and ICT (25%).

Figure 5. Finland's exports of services by category

(€, billion)



App economy and start-ups

Economically, digital platforms are turning into a substantial industry. While the U.S. is the leading innovator, Finland is also contributing.

The Finnish start-up scene has been flourishing in recent years. There are numerous small companies that have their sights set on global markets, many of them on the technological front. The biggest successes so far are Supercell (gaming company) and Wolt (food delivery app), valued at \$10 billion and 7 billion, respectively, in a sale to international investors. Forerunners such as Relex (retail trade optimization solutions) and Aiven (database company) were valued at \$5 billion and 3 billion, respectively, in the latest financing rounds.

Finland is a relatively capital-poor country. There is not enough domestic risk funding for companies experiencing rapid growth. Therefore, many of the most successful start-ups are sold abroad at some point. While it is unfortunate that ownership is transferred out of Finland, broader shoulders are needed to further develop and grow the companies.

Investments for Finnish start-ups increased to 1.8 billion in 2022, more than three times the 2019 figure. The first half of 2023 showed slightly more moderate figures due to higher interest rates and a lack of big ticket items. However, Finland's start-up scene remains highly attractive and, as time passes, these companies are likely to generate substantial growth for the entire economy.

Figure 6. Investments in Finnish startups 2013 - H1/2023

(€, million)



Sources: FVCA, EDC, FiBAN, and Bank of Finland

Artificial intelligence as a growth driver

Artificial intelligence is the primary hot topic currently, being described as the next economic revolution after the steam engine, computers, and the internet. All can potentially bring much-needed productivity gains to the economy. However, as is often the case with new ways of working, short-term gains are overestimated while long-term growth prospects are underestimated.

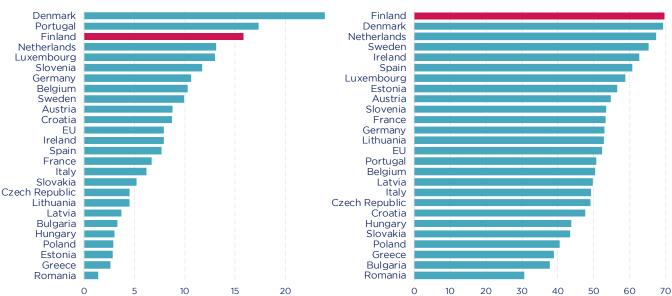


Figure 7. Share of companies using Artificial Intelligence in 2022 (%)

Source: European Commission (DG CONNECT)

Figure 8. Digital Economy & Society Index (Score)

Source: European Commission (DG CONNECT)

Competition within AI cutting-edge technology is mostly between the U.S. and China, but Finland is in a relatively good position in a European context. In Finland, the share of companies already harnessing AI is third highest in Europe (15% in 2022).

Finns have good capabilities for adopting new digital tools, which is reflected in the Digital Economy and Society Index (DESI), in which Finland is the leading country in Europe. DESI is a composite index that summarizes relevant indicators on Europe's digital performance and tracks the evolution of EU member states across four main dimensions: human capital, connectivity, integration of digital technology, and digital public services. Thus, Finland is not the leading country developing AI tools, but an early adopter, which could bring much-needed productivity improvements to the Finnish economy going forward.

Research & development investments

Finland has had a bumpy ride in terms of research and development investments over the past few decades. From the 1980s to 2008, there was significant growth in R&D investments, from a low level to a world leader in the field. Since 2008, R&D investments have remained at a lower level after a significant reduction in the contribution of the telecommunications sector. Small and medium-sized enterprises are still investing in R&D in amounts similar to those of peer countries such as Sweden or the U.S. However, bigger companies, which represent the lion's share of the R&D volume, have not been able to fill the gap left by Nokia's downscaling of research and development in Finland. Currently, most R&D investments are conducted within machinery and equipment and computer programming.

Foreign funding for R&D investments has increased significantly over the past decade. In the early 2000s, foreign funding was only 1 percent of all R&D, while over the last five years the share has increased significantly, reaching 13.6 percent in 2022. Country-by-country data of foreign R&D investments is not currently available.

The current level of R&D investments is not high enough to keep Finland's R&D assets stable in relation to GDP. The share of total R&D assets of companies has declined from 15 percent of GDP in 2009 to 10.5 percent in 2022. Hence, asset depreciation has dominated new investments. This has also had consequences in terms of the labor productivity trend in Finland, which has been stagnant for 15 years.

The government has taken actions on this front and Parliament has the common aim to increase R&D investments to 4 percent of GDP by 2030. The first action taken is to provide more funding for PhDs. This should expand the skilled labor force to enable universities and companies to conduct more R&D. There will also be a further increase in public money for R&D and incentives for companies to invest more in R&D.

(%)

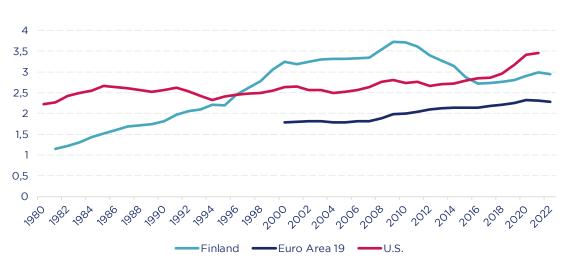


Figure 9. R&D expenditure, Percent of GDP

Sources: Nordea and Macrobond

The green transition: a threat or an opportunity?

The green transition is the subject of heavy debate both in Finland and the U.S. Green investments are not a new topic in Finland, as energy generation in particular has undergone a major clean-up over the past decade. Finland's CO2 emissions have diminished by 43 percent since 2003 driven by cleaner energy production. Electricity produced in Finland in 2023 was 94 percent fossil-free, generated mainly by nuclear, hydro, wind, and bio energy. Finland has become self-sufficient in electricity on an annualized basis while daily transmission between the Baltics and other Nordic countries occurs as needed.

Emission-free and cheap electricity, combined with robust power distribution networks in Finland have begun to attract numerous investments that rely on these factors. The green investment plans published on the Data Dashboard of the Confederation of Finnish Industries (EK) records projects worth up to 230 billion, which reflects the tremendous interest in green investments in Finland, even if only a fraction of those plans transpire as actual investments.

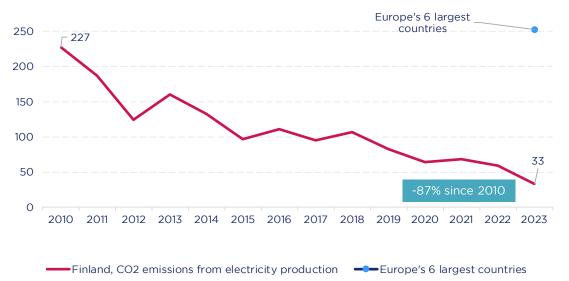
The list includes numerous wind power projects, on- and offshore, with tremendous potential. However, electricity prices are becoming so cheap that many such projects will not commence if more investments in energy-heavy industry fail to transpire. Such industries in need of investment with heavy energy consumption include green steel, hydrogen, batteries, biorefineries, and data center projects.

Finland also provides a solid environment for data centers. Cheap electricity and chilly climate mitigate operating costs. A stable foundation, good network connections, and highly skilled engineers also benefit Finland.

However, lately many green investment plans in Finland have faced headwinds. First, higher interest rates have made many investment plans less profitable. Second, fierce competition in green investments has sparked competition within state aid between countries and, with a weak fiscal position, Finland has not been able to compete.

Figure 10. CO2 emissions from electricity production

(g CO2/kWh)



Sources: Finnish Energy and Nordea

ON THE GROUND: BUILDING THE TRANSATLANTIC RDI PARTNERSHIP

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"By investing in the U.S., Finnish companies gain access to the largest, most dynamic, most diverse, and most resilient market in the world, as well as superior access to various sources of capital. It allows them to diversify their geographical reach and mitigate risk.



The highly competitive nature of the U.S. market also forces Finnish companies to innovate, adapt and improve their business practices.

Together with Amcham and Business Finland, Finland's diplomatic missions in the U.S. give advice and help companies find market opportunities. We stand ready to open doors for you, helping establish effective partnerships and networks."

Ambassador Jarmo Sareva, Consul General of Finland in New York

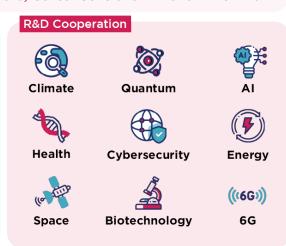
"The U.S. and Finland are witnessing significant economic growth and accelerated innovation, thanks to their science and technology partnerships. Finland's recent inclusion in NATO's DIANA network and the approved establishment of a business accelerator and two testing centers further strengthens this partnership. The coordinated efforts are fueling mutual growth, driving technological advancement, and paving the way for a promising future."

**) This information, compiled with Valona's platform, from global content sources including government, media, and research institutions within the past six months.

Kimmo Havu, CEO, Valona Intelligence Oy Member of the Board, Amcham Finland

"The Finnish government program mentions technology cooperation with the U.S. as a priority. Discussions on R&D cooperation in a number of fields are paving the way to many concrete joint initiatives. Finland and the U.S. have also recently signed two bilateral technology cooperation declarations on quantum technology and on 6G-development. These measures enable us to take concrete steps in developing cooperation in critical technologies and deepen cooperation between Finnish and American companies and research organizations."

Martti Myllylä, Ministerial Adviser, Ministry of Economic Affairs and Employment of Finland



"It is an exceptionally good time for Finnish-American RDI collaboration. Concerted efforts from policy makers, funders, and public and private RDI actors are increasingly bearing fruits. In this environment, the Finnish-American Research & Innovation Accelerator (FARIA) has emerged as a vital platform facilitating multi-stakeholder engagement with the U.S."

Dr. Mari Olafson LundemoUniversity of Helsinki
and **Dr. Jérôme Rickmann**Aalto University

"There has never been a better time to be a Finnish company in the United States.

Brands matter in America, and Finland's NATO accession has solidified its reputation as an honest and trusted partner. Finnish industry has a clear role in transforming the U.S. into a more resilient economy, and I expect to see more Finnish companies investing in this emerging opportunity. At Amcham Finland, we look forward to helping Finnish companies navigate these partnerships and ways to capitalize on them."

Mike Klyszeiko, Director of Launchpad USA, Amcham Finland

THE TRANSATLANTIC ECONOMY REPORT 2024: READER'S DIGEST

Transatlantic economy breaks records

The Europe-U.S. partnership continued to break records amidst significant headwinds. The \$8.7 trillion transatlantic economy employs more than 16 million workers on both sides of the Atlantic.² No two other regions of the world are as deeply integrated as the U.S. and Europe.³⁴

Foreign affiliates are the foot soldiers of this partnership. In 2023, sales by European affiliates of U.S. companies reached a record high of \$3.8 trillion,⁵ with affiliate profits at a record high of \$350 billion.⁶ Foreign affiliates directly employed an estimated 10 million workers on both sides of the Atlantic in 2022.⁷ The overall employment impact of foreign affiliates is likely much larger, as these estimates do not include jobs supported by transatlantic trade flows, the indirect employment effects of strategic alliances and joint ventures, or the indirect employment generated for distributors and suppliers.⁸

The transatlantic outlook is positive for early-stage companies, too. On average, U.S. and EU companies that received transatlantic investments reached growth stage and received growth funding faster than those that did not.⁹

Figure 11. America's Commercial Arteries

(\$Trillions) Source: Bureau of Economic Analysis



Figure 13. U.S. FDI Flows (\$millions, (-) inflows)

Source: Bureau of Economic Analysis

2000-2009 1990-1999 2010-3Q2023 Country % of Total EU % of Total EU \$ Agg. Total % of Total EU \$ Agg. Total \$ Agg. Total ΕU 1,149,810 2,003,630 465,337 11,505 DK 2,798 0.6 5,782 0.5 0.6 FI 1,485 0.3 1,598 0.1 4,317 0.2 NO 4,198 0.9 4.997 0.4 18,092 0.9 16,974 SE 10,783 2.3 1.5 7,266 0.4

^{4.} Europe is defined broadly, including the EU27, UK, Norway, Switzerland, Russia, and smaller markets in Central and Eastern Europe

2. p. v	7. p. ix	11. p. 18	15. p. 73	19. p. 20	23. p. 64
3. p. 2	8. p. ix	12. p. 100	16. p. 6	20. p. 104	24. p. 64
5. p. v	9. p. x	13. p. 68	17. p. 19-20	21. p. viii	25. p. 65
6. p. 22	10. P.5	14. p. 71	18. p. 20	22. p. 64	26. p. 71

Figure 12. Avg. Growth Timeline for Companes

(Years) Source: Cleantech Group



■ EU Companies With O.S. Investments ■ U.S. Companies With EU Investments ■ U.S. Companies Without EU Investments

A notable trend is the decline in transatlantic foreign direct investment (FDI) flows in 2023. Measures including an overhaul of the U.S. tax code as well as major U.S. fiscal incentives contributed to the downturn, combined with the higher cost of capital, depressed mergers and acquisition activity, and uncertain economic prospects on both sides of the Atlantic.¹⁰ Moreover, the share of European workers employed by U.S. majority-owned affiliates has declined from 41 percent in 2009 to 33 percent in 2021. This decline in part reflects U.S. companies' growing tendency to invest at home due to more competitive wage and energy costs. The U.S.' tight labor market however means that U.S. firms are even more dependent now on European workers to drive production and sales.11

A look at country-level trends shows Denmark and Norway may be Finland's real competition for U.S. FDI - not Sweden. Since the early 2000s, both Denmark and Finland doubled their U.S. FDI inflows. Norway's U.S. FDI inflows grew from just under \$5 billion in 2000-2009 to over \$18 billion in 2010-2023. In contrast, Sweden's U.S. FDI inflows declined from approx. \$17 billion to \$7.3 billion in the same time period.\(^{12}\)

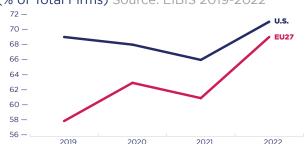
^{1.} Editor's note: The Transatlantic Economy report uses data reported by the U.S. government, while the Nordea analysis in this report is based on Finnish government statistics. Discrepancies between the two are normal and expected.

Finland remains strong contender in digital economy

Questions about the exact definition of "digital economy" make it difficult to estimate the exact size and value of these flows between the U.S. and EU. Moreover, digitalization has blurred the distinction between goods and services.¹³ The value of global trade in digitally delivered services rose to \$3.82 trillion in 2022, accounting for a record 54 percent share of overall services trade. The EU is the global leader in this arena, with a 37 percent share.¹⁴ Even more important, however, is the delivery of digital services by U.S. and European foreign affiliates another indicator reinforcing the importance of FDI, rather than trade, as the major driver of transatlantic commerce.15

Trade in technology and ideas has grown faster than trade in both goods and services. Not only has trade in R&D and ICT outpaced trade in the rest of the services economy, it is fundamentally reshaping it.16 Bilateral U.S.-EU flows in R&D are the most intense between any two international partners, with 11 of the top 20 transatlantic R&D spenders in the Amcham Finland membership.¹⁷ In 2021, the last year of available data, U.S. affiliates spent \$37.5 billion on research and development in Europe.¹⁸ European investments accounted for roughly 54 percent of total U.S. R&D in 2021. 19 Finland's ranking at number 6 in the 2023 Global Innovation Index raises questions about how it could better translate these trends into commercial success. 20

Figure 14. Adoption of Advanced Digital Technologies (% of Total Firms) Source: EIBIS 2019-2022



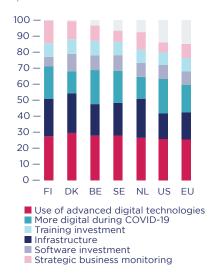
Transatlantic data flows are critical to enabling this innovation and the economic relationship. They account for more than half of Europe's data flows and about half of U.S. data flows globally. Over 90 percent of EU-based firms transfer data to and from

the U.S. ²¹ Accordingly, 5G networks underpin future mobile innovation and services.²² 5G adoption is estimated to have reached 17 percent in 2023 and is projected to rise to 54 percent by 2030. 23 The World Economic Forum further estimates that 70 percent of new value created in the global economy over the next decade will be digitally enabled.24

Finland continues to fare well in comparisons on the adoption of advanced digital technologies among EU countries,²⁵ and remains in the top 3 of networkready economies.²⁶ The European Investment Bank currently also ranks Finland and Denmark as the EU's top digital countries.²⁷ More than two-thirds of firms in Finland report using advanced digital technologies, and Finland leads the EU in the use of formal strategic monitoring.²⁸ When combined with indicators including infrastructure, software investment, training investment, and strategic business monitoring, Finland also emerges as a frontrunner, ahead of Denmark, Sweden, and the Netherlands.29

Figure 15. Corporate Digitalization (EIBIS Index)

Source: European Investment Bank



Generative AI continues to draw attention from the public and private sectors alike. McKinsey estimates that generative AI could add up to \$4.4 trillion annually to the global economy, and venture capital is already pouring in.³⁰ Companies are now tailoring new applications to more customized needs for specific needs for specific industries.31 Morgan Stanley

Rank	Country		
1	Switzerland		
2	Sweden		
3	United States		
6	Finland		
7	Netherlands		
9	Denmark		

Country	NRI Rank	Technology	People	Governance	Impact
United States	1	1	4	7	23
Finland	3	10	7	1	1
Netherlands	4	4	15	2	5
Sweden	5	9	9	5	4
Switzerland	6	2	14	13	6
Denmark	8	11	11	3	8

Figure 16. Global Innovation Index (2023)

Figure 17. Top Network-Ready Countries (2023)

forecasts that 40 percent of all professions will be affected by generative AI applications by 2026.³²

Generative AI also holds promise for spurring innovation in specific industries. In life sciences, predictive AI is poised to reshape clinical trials, genomic sequencing, therapeutics, and preventive medical practice; enable drug discovery and facilitate more effective antibody treatments. The overall global digital health market, valued at just over \$276 billion in 2023, is projected to reach \$612 billion by 2028.³³

Finally, Europe's hyperscale data center market is expected to grow from \$28.42 billion in 2022 to \$39.69 billion in 2028.³⁴ Nordic and Western Europe remain attractive for hyperscale investments, while Spain and Portugal have emerged as new destinations for these centers.³⁵ Concerns about new environmental requirements are amplified by related European anxieties about U.S. dominance, which could inhibit some possible avenues for deeper transatlantic cooperation.³⁶

Energy transformation reflects growing geopolitical tensions

The green transition and Russia's continued assault on Ukraine are forging significant transformations in the transatlantic energy economy. In 2023, the U.S. became Europe's most important supplier of liquefied natural gas (LNG), accounting for 50 percent of the EU's LNG imports.³⁷ At the same time, groundbreaking U.S. and EU policy initiatives have accelerated efforts to address climate change, develop clean energy alternatives, and reduce strategic vulnerabilities. Dense transatlantic commercial ties are a selling point for energy investors, who capitalize on them to spearhead the next generation of clean technologies.³⁸ Five of the top 10 purchasers of renewable energy in Europe between 2008 and 2021 are Amcham Finland members.



Though the EU has been able to lean on the U.S. for support, the European response to Russia's war has been costly. Europe's gas import bill ran about \$400 billion in 2022, more than three times its 2021 levels.

Gas prices have lowered significantly since then but remain above their historical averages. Estimates suggest that gas in Europe will be four times more expensive than in the U.S in the foreseeable future.³⁹

Gas prices not only put upward pressure on the cost of electricity in the EU but generates concerns about EU industrial competitiveness. In contrast, the U.S.' landmark Inflation Reduction Act (IRA) led to over \$110 billion in capital investments for clean energy manufacturing projects in its first year, including over \$70 billion towards electric vehicles and battery supply chains.⁴⁰ The boom in clean energy and manufacturing investment accounted for a record 10 percent in U.S. GDP growth in 2023.⁴¹

Three major shifts



U.S. as critical energy supplier to Europe



New policy initiatives to accelerate green transition and boost competitiveness



Substantial investment and capitalization of transatlantic commercial linkages

Opportunities remain for the transatlantic partnership in the green transition. The EU-U.S. Clean Energy Incentives Dialogue, launched in March 2023 as part of the Trade and Technology Council (TTC), aims to ensure that respective EU and U.S. incentive programs are mutually reinforcing.⁴² Moreover, the U.S. and EU lead the world in terms of international cooperation on clean transport technologies.⁴³ According to the International Energy Agency, the global clean technology market is set to triple by 2030 to around \$650 billion annually.⁴⁴

Despite the EU's determination to wean itself from Russian gas, Russian LNG exports to Europe have increased.⁴⁵ More than a fifth of those flows are transshipped through European ports to other parts of the world, boosting Russian revenues.⁴⁶ Figures on trade in advanced technologies paint an even bleaker picture of the realities of the West's decoupling from Russia. Russia imported more than \$1 billion in U.S. and European advanced chips in 2023.⁴⁷ Russian entities were also able to obtain dual-use technology from Western companies through resellers and manufacturers in countries that are not part of the sanctions coalition. The largest share of these goods, worth nearly \$2 billion, was produced in China.⁴⁸

27. p. 66	33. p. 68	39. p. 51
28. p. 66	34. p. 80	40. p. 52
29. p. 66	35. p. 80	41. p. 52
30. p. 67	36. p. 80	42. p. 52
31. p. 68	37. p. v	43. p. 61
32. p. 67	38. p. v	44. p. 58

45. p. 11	51. p. vii	57. p. 35
46. p. 11	52. p. 28	58. p. 98
47. p. 11	53. p. 30	59. p. 98
48. p. 11	54. p. 30	60. p. 99
49. p. vi	55. p. 29	
50 n vii	56 n 28	

China remains a stakeholder, not key trade partner

China has continued to feature prominently in discussions about competitiveness, yet its investments from the U.S. do not live up to this popularity. In the first three quarters of 2023, U.S. companies invested \$110 billion in Europe — more than six times what they invested in BRICs, and nearly 20 times more than what they invested in China.⁴⁹

The U.S. and EU also remain each other's most important commercial partners and major growth markets when it comes to services trade. EU27 services trade with the U.S. totaled \$704 billion in 2022, over 4 times larger than EU-China services trade. Fo Putting goods and services together, EU-U.S. trade totaled \$1.61 trillion in 2022. In contrast, trade between the EU and China totaled \$1.06 trillion.

Despite popular narratives, the West has not decoupled from China, nor is China decoupling from the West. China has become increasingly reliant on U.S. and EU technologies, markets, and finance, while many Western countries and companies have developed significant dependencies on Chinese suppliers, markets, and materials.⁵² The EU remains 100 percent import-dependent on heavy rare earth elements processed in China.⁵³ At the same time, it is estimated that achieving global net-zero emissions by 2050 requires a six-fold increase in the world's supply of critical raw materials.⁵⁴ This highlights the growing tension between sustainability efforts and supply chain resilience.

The Covid-19 pandemic drove the EU and U.S. to review their supply chains in 2021. Both Washington and Brussels have identified semiconductors, pharmaceuticals, batteries, and critical materials as strategic sectors with highly concentrated reliance on a small number of suppliers, often in China.55 For transatlantic companies delivering these goods, de-risking in China means identifying strategies to maintain and expand commercial ties with China while mitigating these supply chain vulnerabilities. Business is also seeking out strategies to navigate growing government restrictions.⁵⁶ On the flipside, China is capitalizing on the fact that European investment restrictions are far less extensive than those in the U.S. These arbitrage strategies will continue to have transatlantic implications.⁵⁷ The full 2024 Transatlantic Economy Report includes analysis on the broader policy plans from the U.S., EU, and China, as well as corporate strategies in navigating these changing supply chains.

Understanding transatlantic FDI flows

Investments are the backbone of the transatlantic partnership. The ways in which official statistics on investment are reported mask some of its strength. These figures do not distinguish between a) "real" and "phantom" FDI; b) immediate and ultimate investors; or c) between investments that actually end up in another country and those that simply take a round trip flight to that country and return home. Distinguishing FDI by ultimate and immediate investor can help clarify how much investment consists of parent companies investing back into their domestic economies through their foreign affiliates. These dynamics can help illustrate the volatile of annual U.S. FDI outflows, 2 as well as the need for more precise analytical tools to understand them. Amcham Finland is heavily invested in cultivating an attractive environment for these investments in Finland.

"The world continues to become vastly more complex, which is also changing the entire FDI landscape and the ways companies make investment decisions. Finland will therefore need to find ways to manage even stiffer global competition for investments and talent.



Making sure that companies have the talent they need is a key part of this equation.

We at Amcham Finland have been advocating for strategic talent policies since our founding."

Rosa Thurman

Director of Foreign Affiliate Services and Sustainability, Amcham Finland

FINLAND AND THE UNITED STATES



United States in Finland

Jobs

Finland in the United States

22,018

34,884

Jobs directly supported by majority-owned affiliates. Estimates for 2022. Total U.S.-related jobs are likely to be higher, because these figures do not include jobs created by trade flows, indirect employment effects through distributors or suppliers, or via non-equity arrangements such as strategic alliances, joint ventures, or other deals



\$4.4 bn

Foreign Direct Investment (FDI), 2022

\$9.9 bn

Foreign Direct Investment (FDI), 2022

The direct investment balance favors the United States, with Finnish investment in the U.S. remaining at around \$10 billion. Total employment by Finnish companies in the U.S. have also risen substantially over the past few years from 23,000 in 2015 to over 34,000 in 2022. Finnish direct investment in the U.S. is heavily concentrated in the wholesale trade and manufacturing industries, representing 21% and 61% of total FDI, respectively. Finnish affiliates in the U.S. added an estimated \$6.1 billion in value in 2022, while U.S. affiliates in Finland added about \$3.8 billion in value. Total sales of Finnish affiliates in the U.S. nearly doubled that of U.S. affiliates in Finland.





Foreign direct investment position, historic-cost basis, 2000-2022

\$2.6 bn

U.S. Goods Exports to Finland, 2022

3.2% The U.S. supplied 3.2% of Finland's total imports...

...but the U.S. share 9.3% increases to 9.3% when intra-EU trade is excluded

Goods 9.5%

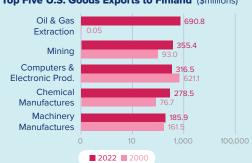
\$8.7 bn

U.S. Goods Imports from Finland, 2022

The U.S. received 9.5% of the total goods Finland exported to the world...

21.7% ...but the U.S. share increases to 21.7% when intra-EU trade is excluded from the total.

Top Five U.S. Goods Exports to Finland (\$millions)



Top State Exporters of Goods to Finland (\$millions)

a 831.4 Texas

2 126.2

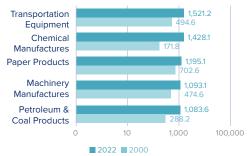
3 120.9 California Pennsylvania Wisconsin

4 115.3 6

113.2

Georgia

Top Five U.S. Goods Imports from Finland (\$millions)



Top State Importers of Good s from Finland (\$millions)

1,201.2

Pennsylvania Maryland

2 898.0

3 782.1 New Jersey

4 781.4 Illinois

5 663.4 Georgia

\$1.7 bn

U.S. Services Exports to Finland, 2022



\$1.7 bn

U.S. Services Imports from Finland, 2022

ABOUT AMCHAM FINLAND

Voice of International Business

Amcham Finland is a non-profit, member-funded and politically independent business community. We are the voice of international business, and home of transatlantic success in Finland.

Mission

The voice of international business in Finland; fostering long-term transatlantic ties.

Vision

To be the primary advocate for international businesses in Finland, the central hub for transatlantic business achievements, and a growing and actively engaged business community.

How Amcham Works

Access & Influence

by improving the operating environment for international business in Finland through our policy and advocacy work

Education & Inspiration

for your leadership team through Amcham events, best-practice networks, and activities

Exclusive Networking

and business development opportunities in English

Success

in the U.S. through 1:1 facilitation, transatlantic insights, and ongoing support

Launchpad USA









Find out more about Amcham and join us to build your business ties across the Atlantic and with stakeholders in Finland.

Visit www.amcham.fi



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3 Step IT 3M Finland 4C Strategies 🔭

AbbVie Academic Work AIG Europe Limited Air France KLM Altum **Technologies** Amazon Web Services 🔭 **American Express GBT Finland** Amgen Anglo-Nordic Aon Finland **Apple** Artek Vitra Aspocomp Asgella Astrazeneca **Atradius**

BAE Systems 🔭 Bayer 🔭 Berlitz **BGBC** Partners **BC Platforms** Biogen Finland Bird & Bird 🔭 Blic Bluet Borenius 🔭 **Bristol-Myers** Squibb 🔭 **Business Tampere**

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Corning Incorporated **DHL Express** Dittmar & Indrenius Diversev **DLA Piper**

Elisa **Enter Espoo** Equinix FY eSystems Nordic Eversana **Eversheds**

Dobbelgänger

Drop

Fastems FedEx Express Finavia Finlandia Vodka Finnair Fiskars Fujitsu 🔭

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Labkotec Lockheed Martin 🔭 Look Closer

MacWell Creative **MAFY** Magisso Marimekko **MBDA** Meta McDonald's MCF Corporate Finance Medtronic Finland Merck Metsä Group Metso Meyer Turku Microsoft 🔭 Mingle Advisors Molten Ventures

Saga Furs Santander SAS Institute Mondelez Finland Scan Global MSD Finland 🔭 Logisitics Scandic International Scandinavian Trust Muru Dining

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Ogletree Deakins **ONEIO** OP Oracle Outokumpu OWG

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University of Helsinki University of Vaasa **UPM**

Vaisala Valmet Automotive Valona Intelligence Vario Vattenfall Vepe-Icepro VTT 🔭

Waselius Wihuri WithSecure **WR** Immigration

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Visionary Member



Mundus

ENGINES OF TRANSATLANTIC GROWTH: DIGITAL AND CLEAN TECH







The U.S. was Finland's biggest export partner in 2023 for the second consecutive year.

Trade between Finland and the U.S. has remained lively despite the weakening of the Finnish economy last year.



Clean and cheap electricity combined with cleantech know-how make Finland an attractive location for green investments.

Electricity produced in Finland was 94% fossil-free and one of the most affordable in Europe in 2023.



reached growth stage and received growth funding faster than those that did not.

Finland is the leading country

in Europe in the Digital Economy and Society Index (DESI), which measures indicators incl. digital infrastructure and human capital.

Finland is in desperate need of investments in research and development in order to boost productivity growth, which has stalled for the past 15 years.

Finland's technology-driven start-up scene combined with Finland's early adoption of AI could add much-needed productivity gains to the economy.

