

G7 | CREATING A MODERN DIGITAL TRADE ECOSYSTEM

CUTTING THE COST AND COMPLEXITY OF TRADE

Reforming laws and harmonising
legal frameworks

Commissioned by:



Summary

Findings

1. Current trade growth forecasts suggest that goods trade will be very flat across the G7 to 2026.
2. Digitalising the trade ecosystem could increase trade across the G7 by nearly **\$9 trillion** or nearly **43%** on 2019 values by 2026.
3. Average growth in trade from digitalization across borders is nearly **8%** above current forecasts.
4. Paperless trade facilitation could create **\$267 billion** of additional exports compared to base forecast by 2026 but digitalising the trade ecosystem could create as much as **\$6 trillion** in extra exports by 2026.
5. Paperless trade facilitation could reduce costs as a share of total trade across the G7 by **76%**: currently all the costs associated with trade represent **3%** of the value of trade. This could reduce to **0.7%** by 2026 through the digitalisation of the trade ecosystem.
6. A fully digitalised trade ecosystem will result in an average 84% reduction in trade cost across the G7+ by 2026.
7. Using electronic transferrable records across the G7+ countries could enable global trade to increase by **40%** by 2026, on 2019 values.
8. Digitalisation will reduce bureaucracy by:
 - » **reducing time spent on cross-border trade by around **81%** across the G7**
 - » **cutting the number of days associated with border compliance from an average of **25** days to less than one day**
 - » **reducing average compliance times from **2.3** days to less than half a day**
9. Digitalisation could help promote sustainable trade – currently only **\$1** in every **\$5** trade dollars is associated with positive SDGs in the G7.

Making the Case for Digitalisation

Electronic Transferable Records

ICC is calling on national governments to create a modern digital trade ecosystem by reforming laws to digitise trade documentation and align legal frameworks to the UNCITRAL Model Law on Electronic Transferrable Records (MLETR). This supports the [G7 Framework for Collaboration on Electronic Transferable Records](#) call to do the same, the work of [UNCITRAL](#) in promoting MLETR, the [Framework Agreement on Facilitation of Cross-border Paperless Trade](#) in Asia and the Pacific of the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP). It also supports the ambition of [The Commonwealth Connectivity Agenda](#) to increase intra-Commonwealth trade to \$2 trillion by 2030.

A modern digital trade ecosystem fit for the 21st century requires national laws to recognise all trade documents in digital form, and legal systems to be aligned to enable digital information to move seamlessly across borders and between stakeholders – buyers, sellers, financiers, insurers, shippers, logistics and customs. Whilst great progress is being made to digitise trade facilitation and customs documents, most jurisdictions around the world still require documents that transfer the possession of goods (transferable records) to be presented in paper form. Examples of such documents in international trade include bills of exchange, bills of lading, promissory notes and warehouse receipts.

The digital trading system currently operates on antiquated systems and laws, in some cases dating back centuries. A typical trade transaction involves up to 27 documents, 9 of which relate to the transfer of possession, can cost \$80,000 per transaction and take up to 2-3

Making the Case for Digitalisation

Electronic Transferable Records

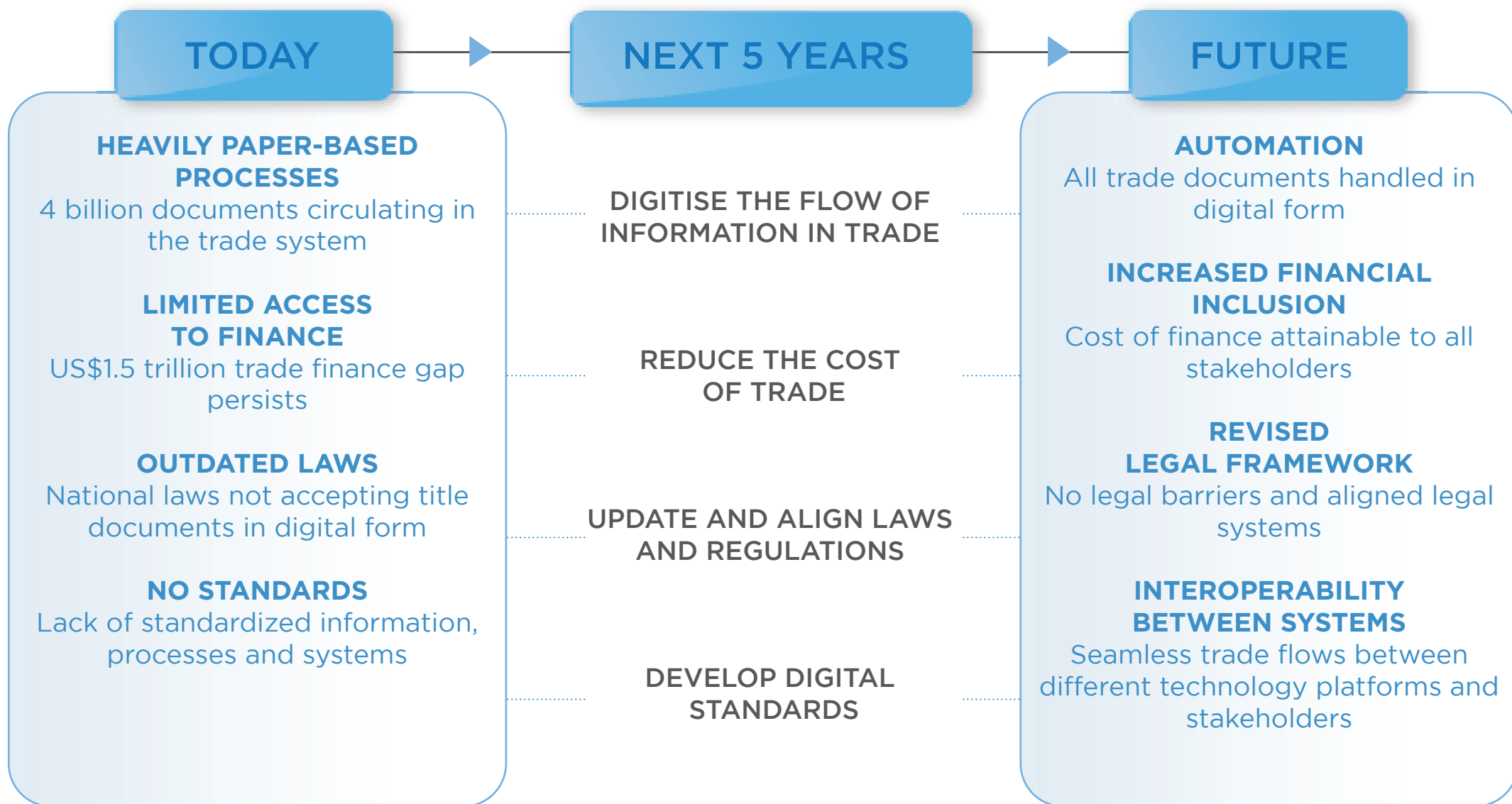
months to process. In total, 4 billion documents move across the trade ecosystem at any given time creating inefficiencies that slow trade down and hamper growth and innovation. Through undertaking necessary legislative reform we can create an enabling legal environment for paperless trade that will enhance SME participation in trade and underpin the economic recovery.

Such legislative reform will contribute to a modernised trading ecosystem that is simple, efficient, and interoperable – where trade happens in hours and days, not weeks and months – and where costs are lower, especially for SMEs. This will help make countries more attractive to digital foreign direct investment and, with faster connectivity, will improve the digital competitiveness and capacity of firms to trade internationally.

The optimal way to achieve this is to reform national laws and align them with the UNCITRAL MLETR.

This report was commissioned by ICC United Kingdom in partnership with ICC France and Germany and the ICC Digital Standards Initiative to set out the economic case for harmonising legal frameworks and provide analysis on the preparedness of the UK market in relation to use of digital identification.

ICC Digital Trade Roadmap



Building Blocks for Success

LEGAL REFORM (Governments)

- Update national laws to accept title documents in digital form
- Align legal frameworks to MLETR

STANDARDISATION (ICC Digital Standards Initiative)

- Work with international institutions and industry groups to establish international interoperable digital standards
 - » Build on existing standards
 - » Create new standards where they don't exist

INDUSTRY ADOPTION & TRANSFORMATION

- Support industry to modernise digital infrastructure
- Make the internal business case for digital transformation
- Promote technology solutions

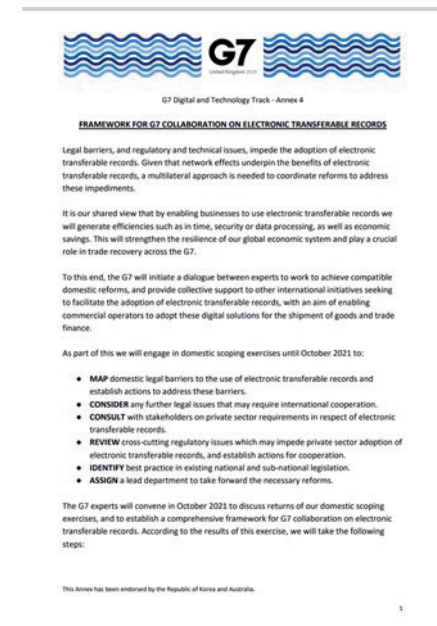
G7 Ministerial Declaration

“Paper-based transactions, which still dominate international trade are a source of cost, delay, inefficiency, fraud, error and environmental impact. It is our shared view that by enabling businesses to use electronic transferable records we will generate efficiencies and economic savings. This will strengthen the resilience of our global economic system and play a crucial role in trade recovery across the G7.”

G7 Digital and Technology Ministers, 28 April 2021



Digital and Technology Ministerial Declaration



Framework for G7 Collaboration on ETRs

Definition;

Transferable Records

Transferable documents or instruments are paper-based documents or instruments that entitle the holder to claim the performance of the obligation indicated therein and that allow the transfer of the claim to that performance by transferring possession of the document or instrument.

Transferable documents or instruments, sometimes called 'documents of title' typically include:

- **bills of exchange**
- **bills of lading**
- **cargo insurance certificates**
- **marine insurance policies**
- **promissory notes**
- **seaway bills**
- **ships delivery orders**
- **warehouse receipts**



The Global Framework

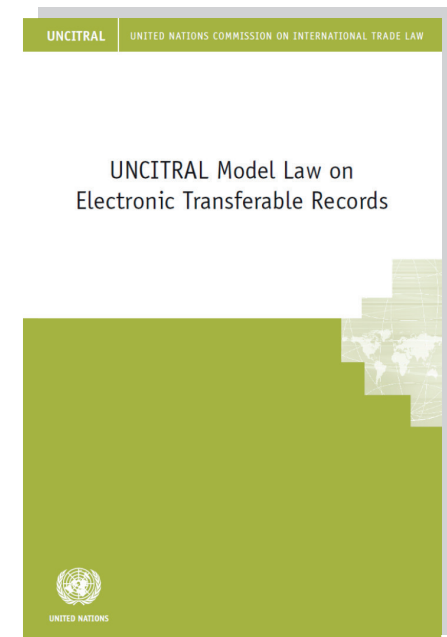
UNCITRAL Model Law on Electronic Transferable Records (MLETR)

The MLETR creates an enabling legal framework for paperless trade. It provides an international framework to align national laws and enable the legal use of electronic transferable records both domestically and across borders.

The MLETR builds on the principles of non-discrimination against the use of electronic means, functional equivalence and technology neutrality underpinning all UNCITRAL texts on electronic commerce. It enables the use of modern technologies including registries, tokens and distributed ledgers.

Aligning national laws to MLETR enables digital information to move seamlessly across borders and between stakeholders – buyers, sellers, financiers, insurers, shippers, logistics and customs

UNCITRAL is the United Nations Commission on International Trade Law, a subsidiary body of the U.N. General Assembly responsible for helping to facilitate international trade and investment.



Economic Case for Legal Reform & Alignment

UNCITRAL Model Law on Electronic Transferable Records (MLETR)

According to a 2021 study commissioned by ICC United Kingdom, modernizing laws in the UK will unleash SME growth and:

- Generate **£25 billion** in new economic growth: **25%** extra SME trade by 2024
- Reduce the number of days needed for processing documents by up to **75%**
- Free up **£224 billion** in efficiency savings which can be recycled into the real economy
 - » £171 billion from bills of lading
 - » £26 billion from bills of exchange
 - » £27 billion from promissory notes
- Generate **£1 billion** to tackle the trade finance gap

CREATING A MODERN DIGITAL TRADE ECOSYSTEM

The economic case to reform UK law and align to the UNCITRAL Model Law on Electronic Transferrable Records (MLETR)

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INTERNATIONAL
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The world business organization

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Enabling SMEs

To Participate in Trade

- Digitalisation will dramatically reduce the cost and complexity of trade and enable more SMEs to participate in global trade.
- Modernising antiquated systems and processes will enable SMEs to operate more efficiently through the smarter use of technology solutions.
- Harmonized systems will help SMEs scale their businesses into international markets at lower cost and better access supply chain opportunities.
- Safer, more secure digital systems will reduce fraud and criminal activity reducing exposure to risk and disputes.
- Greater access to trade finance solutions will address 50% of the global trade finance gap and help SMEs grow into international markets.



Promoting Sustainable Trade

The digitalisation of trade, when combined with investment in digital infrastructure and skills will help ensure no one gets left behind, particularly in the emerging economies.

Legal reform and harmonisation is a fundamental building block to a successful modern digital trade ecosystem. Without reform, the cost of trade will remain high and solutions will be unable to scale across borders. It is also a pre-requisite to implementing international digital standards, another key building block that remove the fragmentation that currently exists in the trading systems and enable systems and processes to talk to each other and information to flow in digital form.



**LEAVE NO ONE
BEHIND**



Digitization helps alleviate poverty by promoting more trade and shared prosperity between nations. Trade reduces consumer costs, improves choice, increases access to investment and opportunity, creates good jobs and improves living standards.



On average, 5 of 6 digital businesses are led by women. Digital trade enables more SMEs to participate across the whole economy reducing regional, sectoral and international inequalities.



Paperless trade will reduce the cost and complexity of trade, tackle 50% of the global \$1.7 trillion trade finance gap and enable more SMEs to participate and drive the economic recovery and reduce fraud and criminal activity. Legal reforms will remove barriers to innovation, eliminate inefficiencies in the trading systems and accelerate the smarter use of technology solutions.



An estimated 4 billion trade documents are in circulation. If stacked on each other, the documents would be 520,000 meters high and constitute approximately half a million trees. Paperless trade reduces the carbon footprint of trade and promotes more sustainable working practices.



Creating a modern digital trade ecosystem will help make trade work for everyone. Stronger trade relations reduce conflict and promote peace and security. New institutional partnerships will be created where they didn't exist before and harmonized legal frameworks will enable governments to work more closely than ever before to promote trade.

Scaling Reforms and Maintaining Momentum

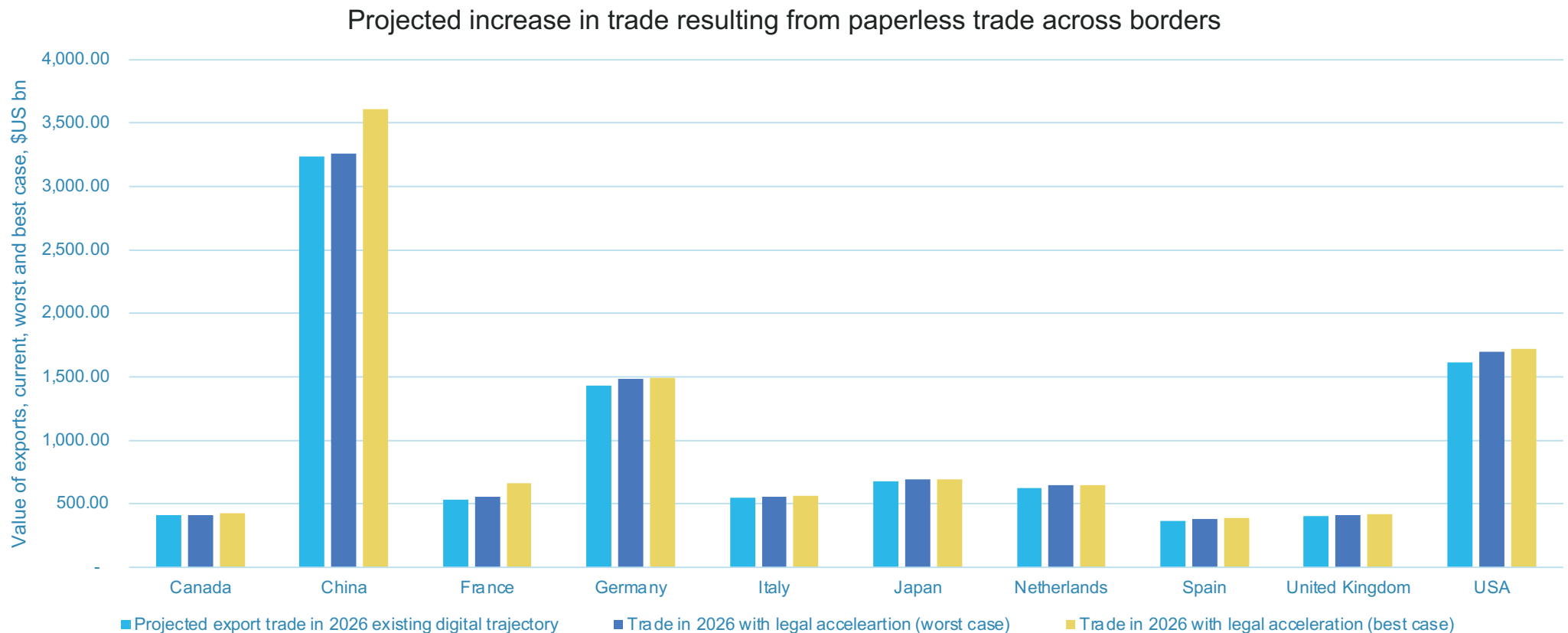
The opportunity now exists to rapidly scale up legal reforms to harmonise legal frameworks worldwide and remove a key barrier to the growth of digital trade. In the context of the economic recovery, this exercise presents itself as a low cost, high return activity for all governments seeking to reduce the cost and complexity of trade and increase SME participation to drive the recovery.

However, this isn't a given. More business cases and economic data are required to demonstrate the value of reform and ensure that the momentum generated by the G7 in 2021 is sustainable and long term. The business cases provided by this project will generate the evidence to ensure this happens.

The reports will be published at the same time as G7 governments provide a full report back in October 2021 on legal barriers and a roadmap for reform.

Average Growth In Trade From Digitalization

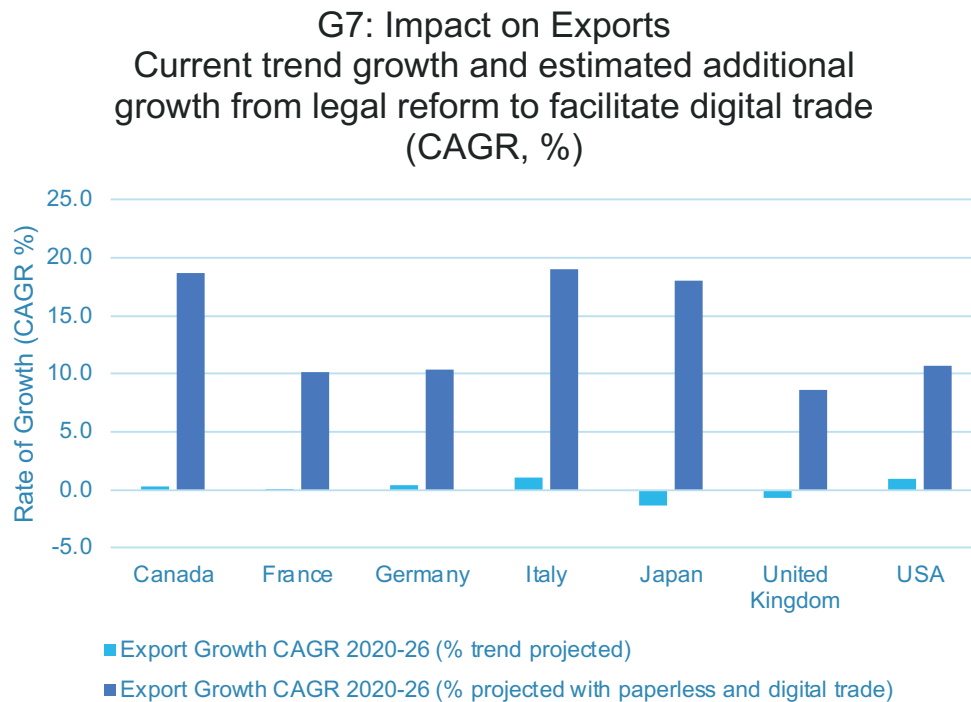
Across Borders is Nearly 8% Above Current Forecasts



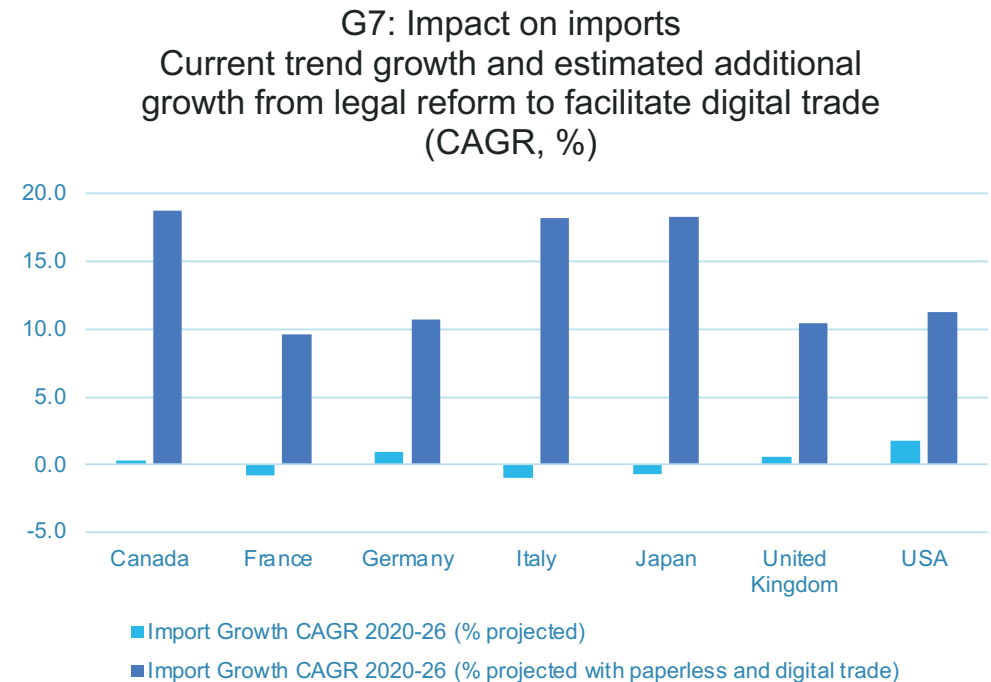
Digitalising the Trade Ecosystem Could

Increase Physical Trade Values by Nearly 14% Across the G7

EXPORT GROWTH



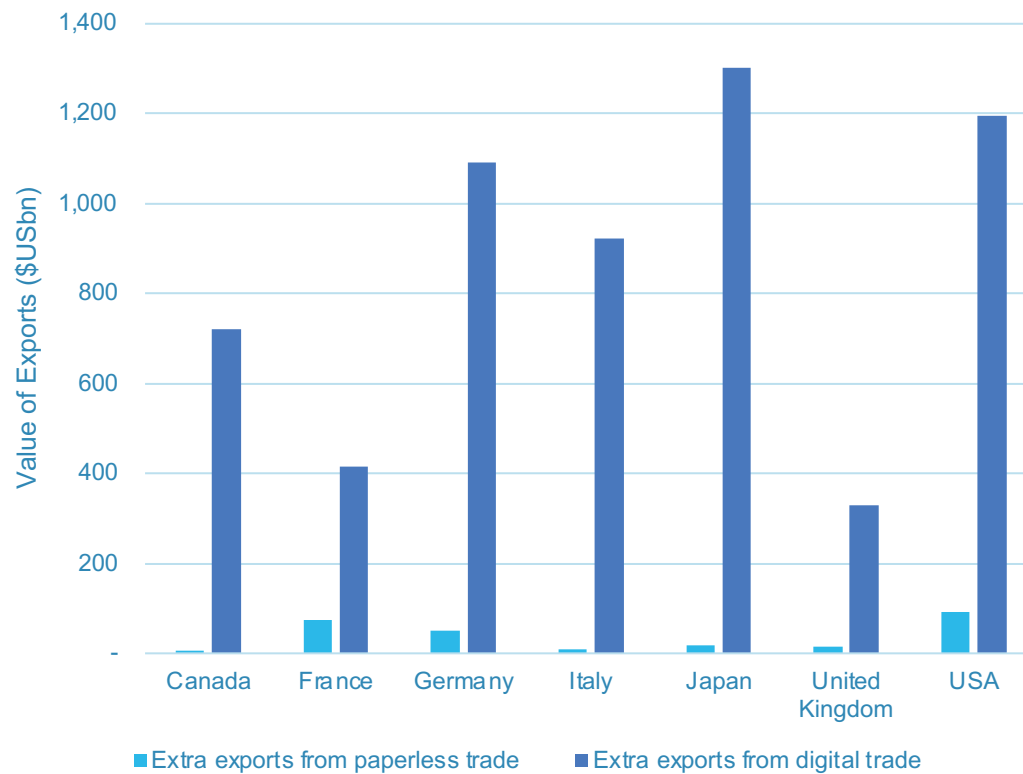
IMPORTS GROWTH



Digitalising the Trade Ecosystem

Has a Bigger Impact than Paperless Trade

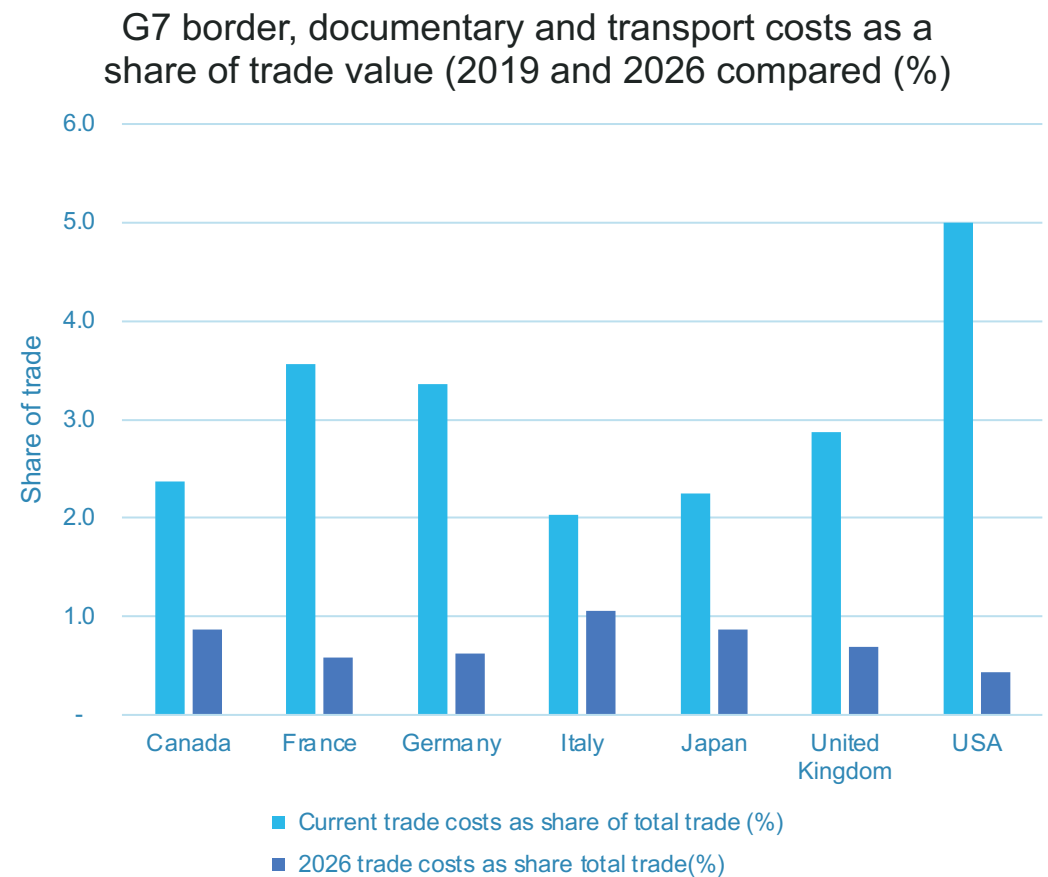
G7: additional exports by 2026 from paperless trade and digital trade (USbn)



- Japan, the US and German exports would benefit the most from legal reform to enable digital trade
- This is partly a function of size, but the impact could nearly double export values in these countries by 2026

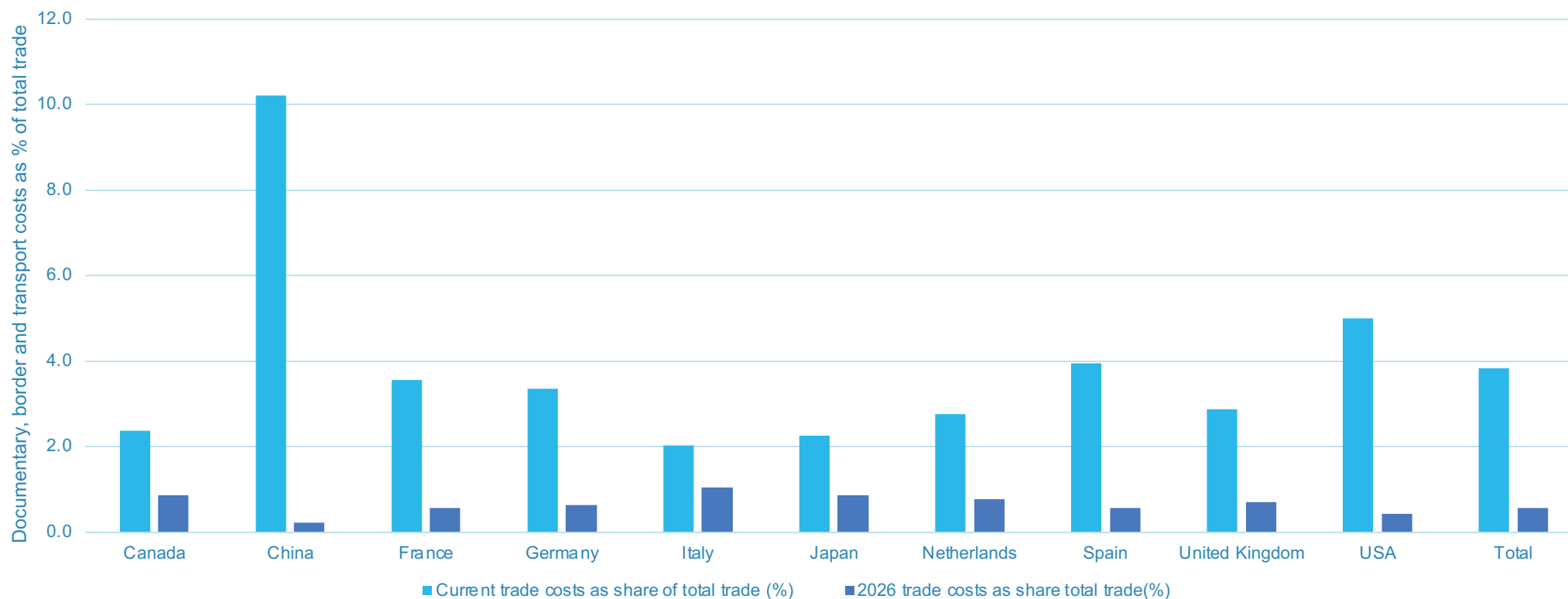
Digitalising The Trade Ecosystem Enables Businesses to Reduce the Cost of Handling Export Documents

- Across the G7, costs associated with cross border trade (compliance costs, documentation, transport) could decline by as much as 81%
- The impact would be particularly great in the US and would be the least in Italy



Digitalising the Trade Ecosystem Will Result in Costs to Business Dropping 84%, on Average Across the G7+ by 2026

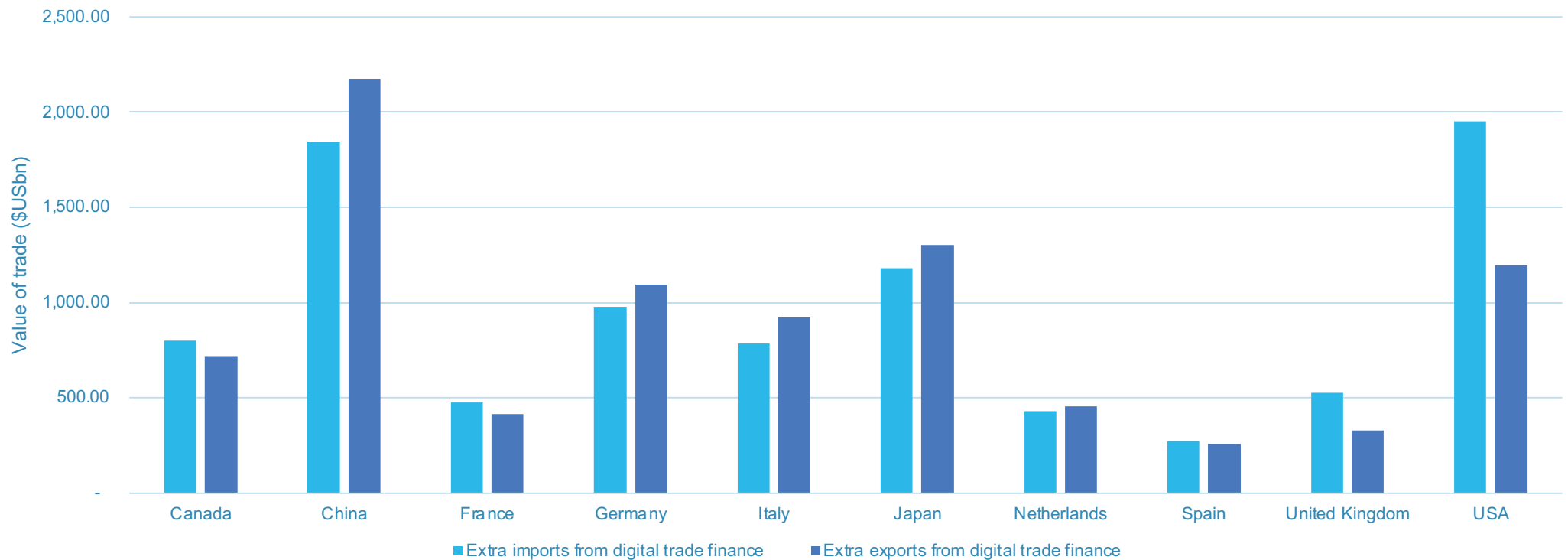
Export cost savings for business from introduction of paperless trade at borders



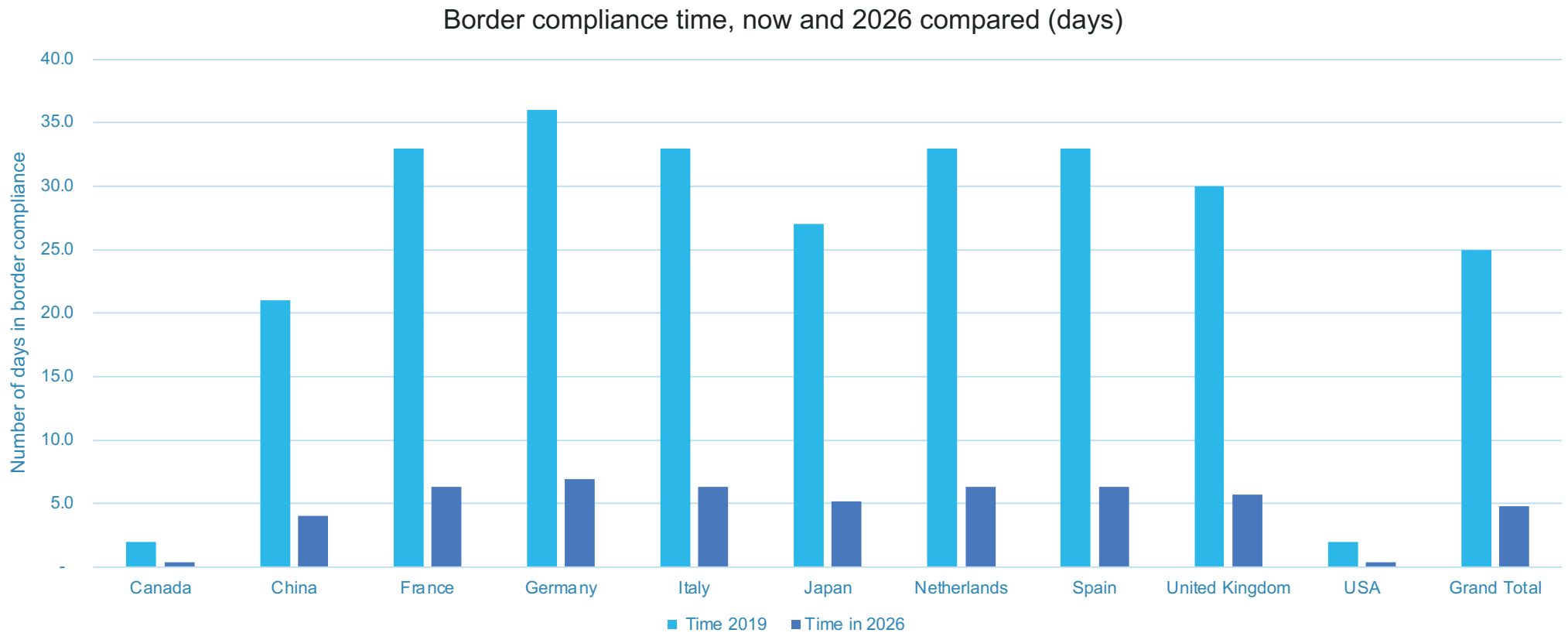
Digitalising the Trade Finance Ecosystem Across The G7+

Could Underpin A 40% Increase in Global Trade by 2026

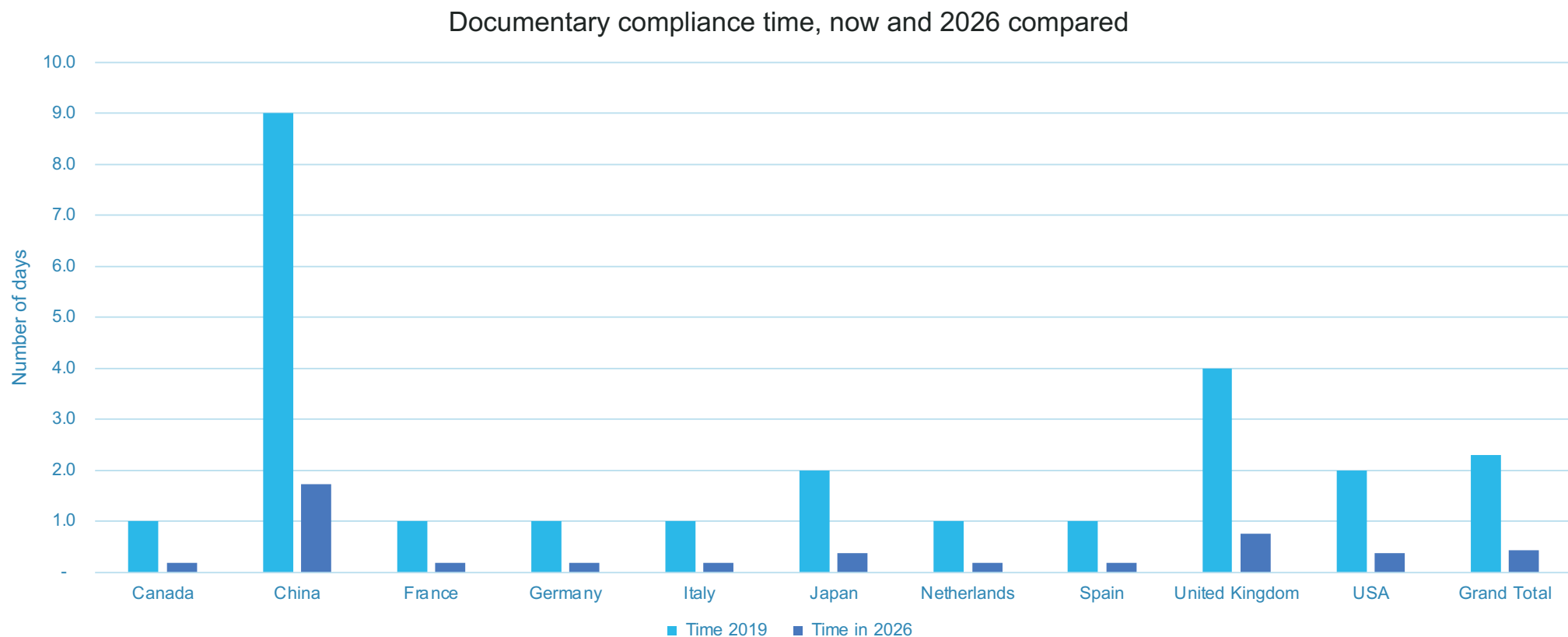
Increased exports and imports from introduction of electronic transferrable records in trade finance by 2026 (from 2019)



Digitalising The Trade Ecosystem Will Cut The Number Of Days Associate with Border Compliance From an Average Of 25 Days to Less than One Day

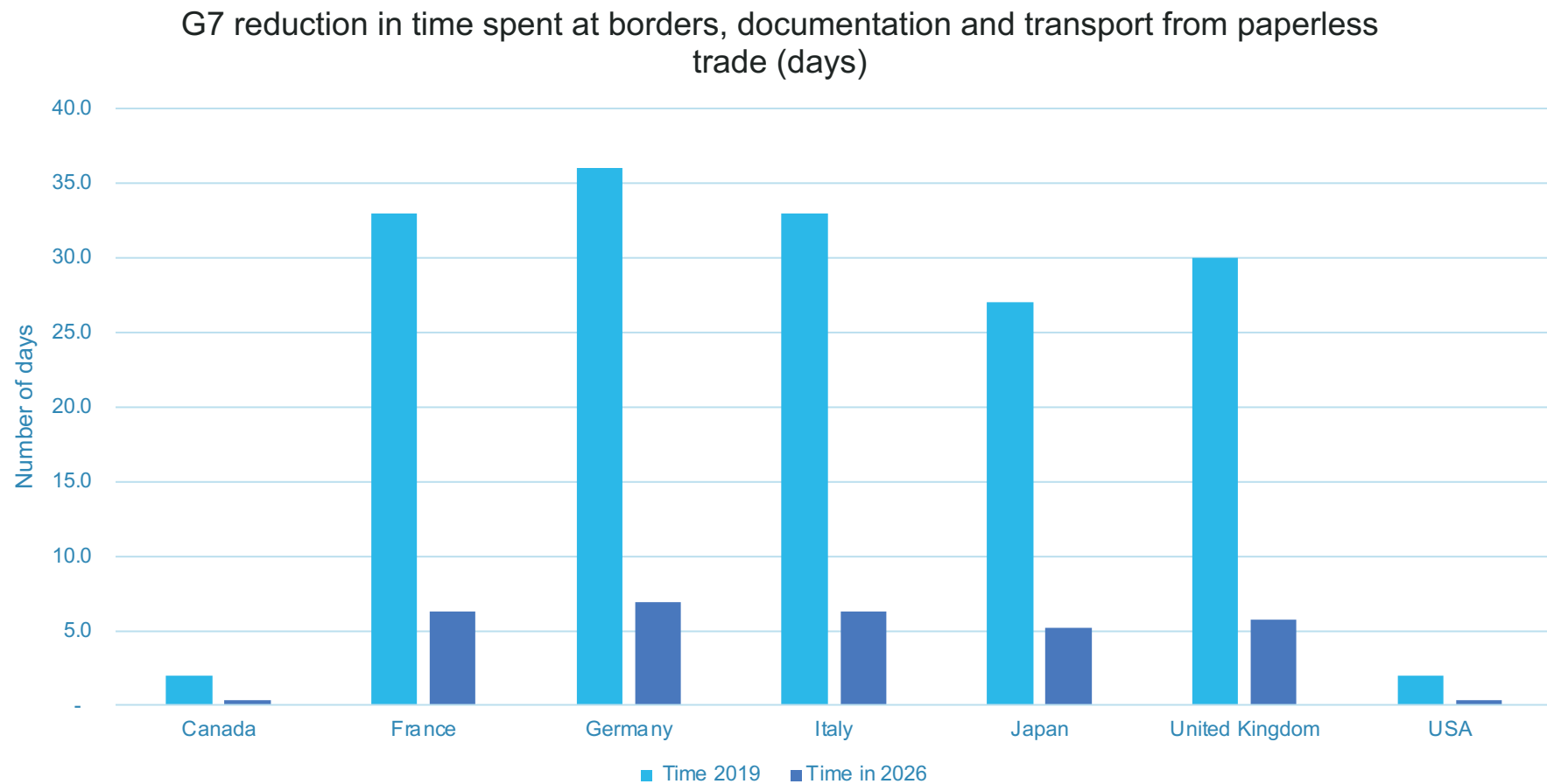


Digitalising the Trade Ecosystem Could Reduce Average Compliance Times from 2.3 Days to Less than Half a Day



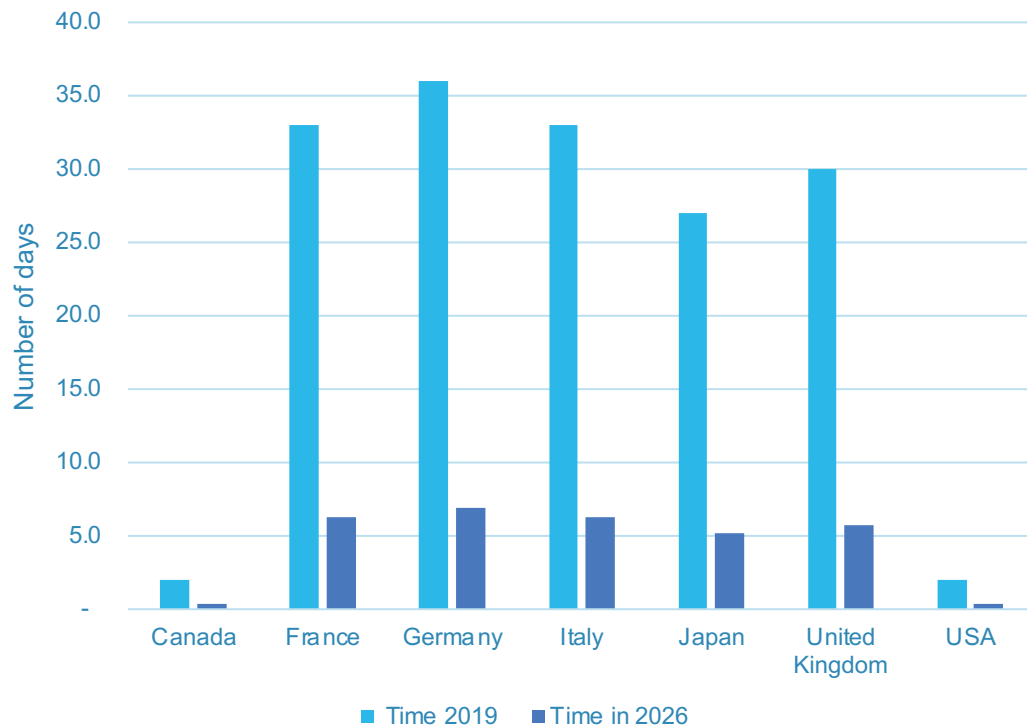
Digitalising the Trade Ecosystem

Will Reduce Time Spent Crossing Borders



Digitalising the Trade Ecosystem Reduces the Number of Days Filling in Forms and Time Spent Crossing Borders

G7 reduction in time spent at borders, documentation and transport from paperless trade (days)



- The US and Canada are starting from a much lower number of days to complete cross border documentations and transport processes
- However, the time saving of around 80% holds for all countries
- This is in line with expert interview feedback saying that time costs from paperless trade could reduce from 25 days to 5 days anywhere in the world once standardisation is achieved

A Sustainability Wake Up Call

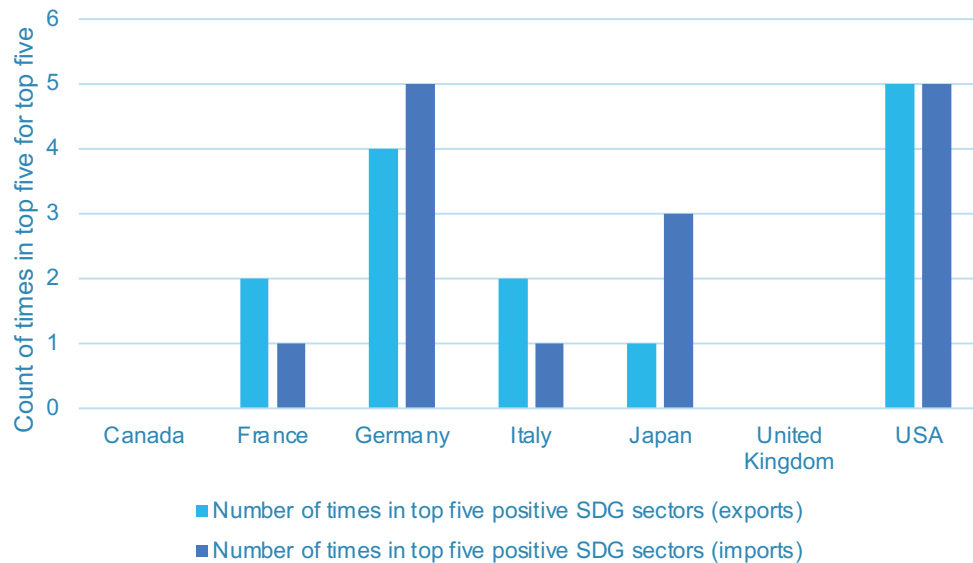
Digital Trade Contributes to Sustainability

- Trade finance in 2019 was worth around \$17 trillion (includes open account, import and export trade finance, credit insurance and bank intermediated trade finance) - this is equivalent to the sustainability assets under management in impact investing
- Amongst the G7 countries, only \$1 in every \$5 of exports and imports is associated with positive Sustainable Development Goals (SDGs)
- Large fossil fuel trading nations contribute the most, so Germany, the US, Japan and Canada feature negatively
- The UK does not appear in the top five exporters or importers for any of the top five sectors associated with positive SDGs
- Germany is the largest exporter and importer of recycled plastic globally
- Coriolis research shows:
 - **A regulatory push will compel business and financiers to think more about sustainability in their supply chains**
 - **The EU taxonomy is a game changer because it measures environmental impact against sector codes and activities. Outside of the EU alone this is estimated to affect some \$3 trillion of global trade**
 - **Trade transactions will need to include an ESG score - against sustainable development goals and against the Taxonomy**
 - **Product mapping to SDGs and the taxonomy is the way forward but will require independent validation and automation if sustainability is to be included**
 - **This is too vast to be done manually or qualitatively so digital tools need to adapt**

We Need to Think About Sustainability and Digital Trade

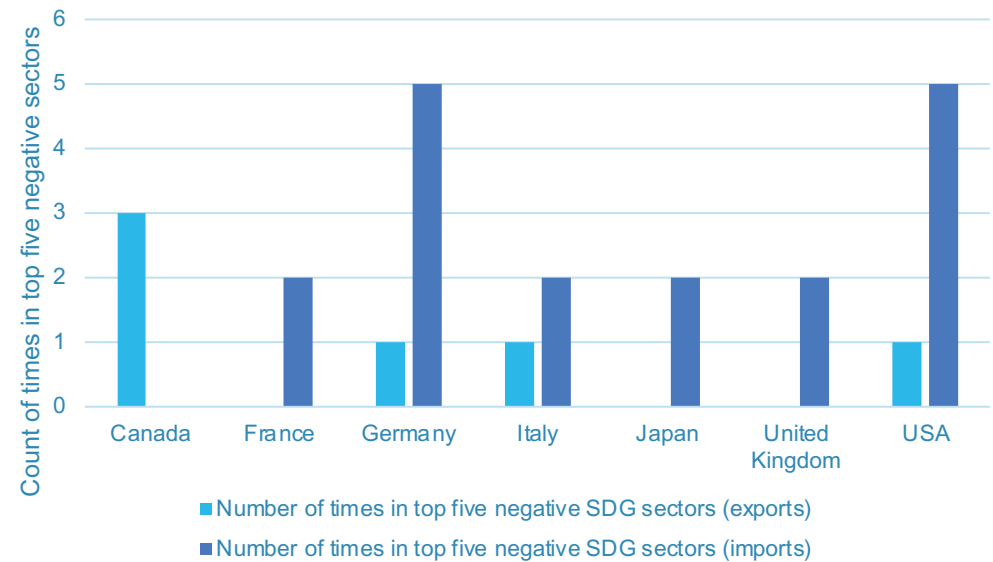
POSITIVE SDGS

Number of times a country is in top five exporters or importers associated with largest five sectors associated with positive SDGs



NEGATIVE SDGS

Number of times a country is in top five exporters or importers associated with largest five sectors associated with negative SDGs



Digital trade in public discourse is increasing:

- 2015-2019: 37 relevant documents sourced from web-scraping across the G7+
- 2020-21: 63 relevant documents sourced from web-scraping (46 in 2021 year to date) across the G7+

The more recent documents refer to inadequacies in current system that have been exposed by Covid:

- Over-reliance on paper-based models
- Payment delays
- Human error (documents mishandled)
- Fraud
- Inefficiency (documentary analysis showed 60-70% of documents rejected at first presentation)

There is no association of digital trade with sustainable trade in the discourse analysis, yet this should be a priority area according to expert interviews

Digital trade advantages to banks concur with those in ICC United Kingdom study:

- Lower bank costs by pre-checking and processing through value chain (up to 75% from discourse analysis)
- Lower risk of fraud
- Lower costs of SME financing

Digital trade advantages for businesses include lower costs, greater market access and greater access to bank and non-bank trade finance

“Technology is moving faster than the law” – digitalisation itself is not a panacea, but single document origination could substantially reduce risk if standardization is achieved (16 documents referred to this)

There is still a long way to go: Global Container Shipping generates 28.5 billion bills of lading documents a year globally but only 0.1% of these are issued electronically

APPENDIX

Method Glossary

- The UK was taken as a base for costs and time savings over time for digital trade for banks and businesses using the ICC UK survey of 55 global banks
- World Bank Ease of Doing business data was used as a base for export and import costs (<https://www.doingbusiness.org/en/rankings>). This provides information about the costs in terms of dollar values per shipment and costs of border crossings and border compliance for base estimations and replaced the need for a dedicated survey approach as was conducted in the UK. This was used as the basis of the paperless trade analysis
- UNCTAD transportation costs were used as a baseline for creating an index of transport and freight costs in international trade <https://unctadstat.unctad.org/EN/TransportCost.html>
- Only exports are analysed to assess the costs and time savings associated with paperless trade to avoid double-counting on bilateral relationships
- The assessment of the impact on trade of electronic transferrable records on trade was based on the UK case study published by the ICC in May 2021 which included a survey of 55 international banks. This study gave estimates from that survey of the total benefits to banks' trade finance businesses of a move to electronic transferrable records.

- A typical shipment was valued at \$25,000. UNCTAD and the OECD estimate costs on the basis of a typical container of 20 ft that weights between 1.8 and 2.2 metric tonnes. We assumed 2.2 metric tonnes and used trade volume data from the United Nations Comtrade database to estimate the “typical value” of that shipment using the Coriolis Technologies
- MultiLateral platform’s mirroring approach (<https://comtrade.un.org/> and <https://www.coriolis-data.com/dashboards>)
- Costs by country were derived from the Ease of Doing business indicators (a more accurate and recent estimation of costs than is currently available in the East of Doing business data which was last published for 2019
- The value of trade by \$25000 for each country to get a unit value of trade in 2021 for each country. The total cost for each country (compliance + documentation + transport) was multiplied by the number of units to get a total cost of transportation, border compliance and documentary costs
- The percentage of total trade accounted for by trade costs was calculated

- Cost and time savings were taken from the documentary research, expert interviews and discussions with trade professionals (approx. 20 in total) and the ICC UK survey of 55 banks. There were assumed to be no impacts on costs in the first year after legal reform so growth in line with trend forecasts was calculated for 2022. Benefits were estimated to accrue from 5% in the first year and exponentially thereafter.
- Coriolis Technologies creates a momentum forecast of trade to give a base line picture of how trade will grow over the following five years. The cost elasticity of trade was derived from a meta-analysis of academic research on the subject using cross—country analysis (https://www.nber.org/system/files/working_papers/w16796/w16796.pdf. And <https://core.ac.uk/download/pdf/6224614.pdf> for example) and the country elasticity from this analysis was used as a coefficient to create uplifts in trade forecasts between 2021 and 2026 using an upper-bound and a lower bound estimate given the estimated expectation of changes in trade costs from paperless trade
- Cost changes year-on-year were estimated assuming a gradual reduction from 10% in 2024 to 15% in 2025 and 25% in 2026 if regulations are implemented in the next 18 months This gives the base forecast and the lower and upper bound estimates for 2025. The acceleration in impact is because of the multiplier effect as legal reform is implemented before 2024. However, this is substantially below the estimated costs savings in the documentary research because these tend to be unquantified

Methodology

Documentary Research

- Documentary research covering 600 media sources, speeches and third party documentation across the G7, Europe, Asia, Africa, North America and South America was analyzed using Python-based Natural Language Processing tool.
- Around 1.1 million words in appropriate documents were analyzed
- Documents were analyzed for the frequency, context and content of key words associated with trade digitization, paperless trade facilitation and related legal reform
- The results were grouped into specific categories and themes related to legal reform, electronic transferrable instruments, and digital trade facilitation
- The documentary research was supplemented by 20 expert interviews with trade practitioners, in particular covering SME impact and sustainability

Methodology

ESG Calculations

- All goods exports and imports are classified by a standardised customs and excise code – the HS code
- This HS code is mapped to sustainable development goals (SDGs) using the UN concordance: <https://www.unescap.org/sites/default/d8files/knowledge-products/SDG-HS-NTM-Concordance.png> algorithms based on the UN Concordance)
- This yields the five largest sectors contributing positively to SDGs in global trade flows and the five largest sectors contributing negatively to SDGs in global trade flows
- The number of times a G7 country is counted amongst the top five importers or exporters in each of these five sectors is recorded

- » Paperless trade: this is digital cross-border trade facilitation measures to mean “Trade taking place on the basis of electronic communications, including exchange of trade-related data and documents in electronic form across borders” (https://www.unescap.org/sites/default/d8files/knowledge-products/FAQ%20on%20the%20Framework%20Agreement_Dec%202020.pdf)
- » Electronic Transferrable Records: “electronic transferrable records that are equivalent to transferable documents or instruments.” In other words, these are electronic versions of often paper-based transferable documents that entitle the holder to claim the performance of the obligation indicated in the documentation- for example payment or delivery. (https://uncitral.un.org/en/texts/ecommerce/model-law/electronic_transferable_records, https://uncitral.un.org/sites/uncitral.un.org/files/media-documents/uncitral/en/mletr_ebook_e.pdf).
- » Border compliance: “captures the time and cost associated with compliance with the economy’s customs regulations and with regulations relating to other inspections that are mandatory in order for the shipment to cross the economy’s border, as well as the time and cost for handling that takes place at its port or border.” (<https://www.doingbusiness.org/en/data/exploretopics/trading-across-borders/faq>)
- » Documentary compliance: “captures the time and cost associated with compliance with the documentary requirements of all government agencies of the origin economy, the destination economy and any transit economies.” (<https://www.doingbusiness.org/en/data/exploretopics/trading-across-borders/faq>).
- » Digital trade: digitally enabled transactions in goods and services (https://www.oecd-ilibrary.org/trade/digital-trade_524c8c83-en)

ACKNOWLEDGEMENTS

The project was commissioned by ICC United Kingdom with Coriolis Technologies Ltd as the independent research partner. We would like to thank the following organisations for supporting this project.



A special thank you to Huawei Technologies Ltd. for funding the project and Coriolis Technologies Ltd. for undertaking the independent economic research.



NOTE:

This project is part of wider, ICC global programme making the case for legal reform. The programme has multiple research commissioners, project funders and institutional partners.