PAPERLESS INTERNATIONAL TRADE: ACHIEVING HARMONY BETWEEN THE LAW AND TECHNOLOGICAL POTENTIAL
The development of technologies over the past decade has made paperless trade increasingly attainable. Recently, the disruption caused to supply chains by the COVID-19 pandemic has highlighted the gulf that now exists in many jurisdictions between what is technically possible and what is legally permitted or recognised in relation to the transferable records that underpin international trade.

Transition to the use of electronic transferable records as an alternative to paper-based transactions could reduce the inefficiency, errors, cost and environmental impact arising from the use of paper-based instruments in international trade. With momentum building behind a transition to digital trade, we examine below the current legal framework relating to electronic transferable records in a number of jurisdictions, and the efforts towards reform that are being made in the international community.

Traditionally, much of international trades in goods is conducted via hard copy paper-based instruments which entitle the bearer to claim delivery of goods or the payment of a sum of money. These are referred to as transferable documents or transferable instruments. Examples of these instruments include negotiable instruments, bills of exchange, promissory notes, and warehouse receipts. Today, paper-based transactions continue to dominate international trade, with only 0.1% of bills of lading being issued electronically.

Globally efforts are being made to address the lag in legal recognition of electronic documents. A common thread across all of these initiatives is an attempt to address the issue of control or possession, which is so fundamental to the operation of trade documents. Some legislative efforts address this by seeking to identify a functional equivalent to possession that applies to electronic documents. An alternative legislative approach is to expand the category of assets that are amenable to possession – something the UK proposes to do. Others bypass possession entirely and instead set out the circumstances in which a person is deemed to hold a document, and how that person is able to transfer specific rights or entitle.
G7 MLETR declaration and framework
In April 2020, as an emergency measure to protect trade during the COVID-19 pandemic, the International Chamber of Commerce (ICC) called on all governments to enable a transition to paperless trading by removing any legal requirements for paper documentation.\(^4\) Their statement also encouraged governments to consider longer-term changes to legal frameworks, including the adoption of the United Nations Commission on International Trade Law (UNCITRAL) Model Law on Electronic Transferable Records (2017) (MLETR), a legislative instrument which confers legal recognition to electronic transferable records.

In April 2021 the G7 inter-governmental political forum, comprising Canada, France Germany, Italy, Japan, the United Kingdom and the United States, agreed a framework to promote the use of electronic transferable records through adoption of the MLETR. This G7 framework envisages the mapping of domestic legal barriers to the use of electronic transferable records, consulting with stakeholders on any private sector requirements, and assigning a lead department to take the reforms forward.

On 22 October 2021 the G7 Trade Ministers’ Digital Trade Principles were published, which included a statement that “…governments and industry should drive forward the digitisation of trade-related documents”. However, to date the MLETR has been adopted by only a handful of countries, including Bahrain, Singapore and Abu Dhabi.

Key provisions of the MLETR
The MLETR enables the legal use and recognition of electronic transferable records if they (a) meet the requirements of “functional equivalence” with transferable documents;\(^5\) and (b) satisfy the “general reliability standard” in article 12 of the MLETR. By adopting the MLETR, governments can help private parties overcome the requirement that certain negotiable instruments be presented in hard-copy format where the requirements for a functionally equivalent electronically transferable record are met. However, the MLETR does not affect the law applicable to hard-copy transferable documents or instruments – the MLETR envisages that any hard-copy instruments used after the adoption of the MLETR will continue to be recognised in accordance with the law of the relevant jurisdiction.

Articles 8 – 11: Functional Equivalence
The MLETR provides that an electronic transferable record is functionally equivalent to a transferable document or instrument if that record contains the information required to be contained in a transferable document or instrument and a reliable method is used to (a) identify that electronic record as the electronic transferable record; (b) render that electronic record capable of being subject to control from its creation until it ceases to have any effect or validity; and (c) retain the integrity of that electronic record.

Further, where any information is required by law to be in writing, this requirement will be met in an electronic transferable record if the information contained therein is accessible and usable for subsequent reference. A signature will also be recognised in an electronically transferrable record if a reliable method is used to identify

\(^4\) ICC memorandum to governments and central banks on essential steps to safeguard trade finance operations, 6 April 2020.
\(^5\) Articles 8 – 11 of the MLETR.
the signatory and to indicate their intention with respect to the information in the electronically transferable record.

Where possession is an underlying requirement, this can be established in an electronically transferable record if a reliable method is used to establish exclusive control of that electronically transferable record by a person and identify them.

**Article 12: General Reliability Standard**

In determining functional equivalence, the MLETR imposes a general reliability standard. This standard is a broad one, taking into account the following non-exhaustive considerations: the ability to prevent unauthorised access to, and use of, the system, the assurance of data integrity, the security of hardware and software and any applicable industry standard, amongst other things.

It remains to be seen how such a standard will be applied in practice or implemented by States in their domestic legislation. Notably, the explanatory statement accompanying the MLETR cross refers to similar provisions in the UNCTRAL Model Law on Electronic Signatures (2001) (MLES) (e.g., regularity and extent of audit by an independent body), the interpretation of which may be helpful by way of analogy.

**ICC’s uniform rules for digital trade transactions**

In parallel with ongoing work to promote the MLETR, in October 2021 the ICC published its Uniform Rules for Digital Trade Transactions (URDTT), which provide a framework for participants in digital trade transactions (being transactions in which electronic records are used to evidence the underlying sale and purchase of goods or services, and the incurring of a payment obligation). These technology-neutral rules are intended to be used in a fully digital environment and to extend beyond financial services to other commercial transactions. They are designed to be compatible with the MLETR, and will apply to the extent they are incorporated into the terms and conditions of a digital transaction and the applicable laws permit full digitalisation.

**Further international collaboration**

Collaborative efforts are being made internationally to progress the facilitation of digital trade. For example, on 11 November 2021, Singapore’s Infocomm Media Development Authority (IMDA), the Monetary Authority of Singapore (MAS) and the Financial Services Regulatory Authority (FSRA) of Abu Dhabi Global Market (ADGM), in collaboration with commercial partners DBS Bank, Emirates NBD and Standard Chartered, successfully concluded the world’s first cross-border digital trade financing pilot of its kind, paving the way for wider adoption of IMDA’s TradeTrust framework. In addition, on 29 November 2021, the governments of Singapore and the UK announced the signing of three Memoranda of Understanding between them in the areas of Digital Trade Facilitation, Digital Identities and Cyber Security.

**Jurisdiction specific developments**

**Middle East**

Several jurisdictions across the Middle East have enacted laws to facilitate electronic transactions, including the UAE and Bahrain, along with the UAE financial free zones, the Dubai International Financial Centre (DIFC) and the Abu Dhabi Global Market (ADGM). It has been recognised for several years that, in adopting the appropriate formalities, electronic signatures can be used to execute documents and this will be
recognised in the courts (along with electronic transferable records). These laws largely follow the MLES and the UNCITRAL Model Law on Electronic Commerce (1996). The ADGM and Bahrain have also been, along with Singapore, the first jurisdictions in the world to expressly implement the MLETR. This means that, in addition to expressly confirming the validity of e-signatures, and admissibility of e-records (amongst other things), the jurisdictions have confirmed that an “Electronic Transferable Record” has the same legal effect, validity and enforceability as if it was in tangible written form. We expect this approach to legal effect, validity and enforceability will be followed in practice in other regions across the UAE (including the DIFC) which have not yet expressly implemented the MLETR.

Singapore

Singapore was the second country to adopt MLETR into its national legislation, after Bahrain's adoption of the MLETR in November 2018. To give effect to the MLETR, Singapore amended its Electronic Transactions Act (ETA) in February 2021 and, amongst other things, removed transferable documents or instruments such as bills of lading from the exclusion list in the ETA. This change provided legal recognition to electronic transferable records in Singapore. Singapore also passed various amendments regarding technology requirements, aligning the ETA with MLETR's principles of non-discrimination against the use of electronic means, functional equivalence and technology neutrality.

These steps reiterate Singapore’s commitment to the facilitation of global trade digitalisation. This is also aligned with Singapore’s TradeTrust framework which comprises a set of globally accepted standards to establish a digital framework for the exchange of digital trade documentation, to increase efficiency, reduce cost, and support new digital services.

People’s Republic of China

In China, there are no laws or regulations specially addressing electronic transferable records as a whole. Although the term “electronic transferable records” does not appear in any legislative document, with the rapid development of electronic commerce, relevant rules concerning electronic signatures and electronic commercial documents, such as commercial drafts, are rapidly developing.


The PRC E-Commerce Law (2018) has a dedicated chapter for the conclusion and performance of contracts for e-commerce. Among other things, the law expressly recognises the validity of contracts concluded through automatic information technology systems. Article 469 of the PRC Civil Code (2020) further clarifies that electronic data messages, the contents of which can be tangibly expressed (such as through interchange of data and electronic mail) and can be retrieved at any time, can be regarded as a written contract. These general provisions set forth fundamentals for the development of electronic transferable records.

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6 When referring to concepts of laws and regulations, governmental, judicial and regulatory authorities, and the jurisdiction of relevant authorities, unless otherwise stated, the term “PRC” does not include Hong Kong, Macau or Taiwan.
The PRC E-signature Law (2019 Amendment) (the "E-signature Law") provides legal grounds to determine the validity of electronic legal instruments. It gives a clear definition for an "E-signature" – "data in electronic form, which is included in or attached to a data message, for purposes of verifying the identity of the signatory and indicating the signatory's acknowledgement of the content of the data message."

The E-signature Law outlines certain conditions for a reliable electronic signature, namely (1) the data comprising the e-signature is owned and controlled exclusively by the signatory when e-signing; (2) any post signing alteration to the e-signature is identifiable; and (3) any post signing alteration to the content or form of the data message (i.e., the agreement executed in an electronic manner) is identifiable.

Under the E-signature Law, a reliable electronic signature shall have the same legal effect as a wet-ink signature or seal. However, if an electronic signature needs to be certified by a third-party institution, such certification institution must obtain a licence.

Laws involving electronic signatures and electronic legal instruments are continuing to develop in China, and the extent to which the MLETR will be adopted in China remains to be seen.

**Hong Kong**

At the time of writing, Hong Kong has not adopted the MLETR.

Since 2000, when the Electronic Transactions Ordinance came into force in Hong Kong, an electronic record satisfies a legal requirement for certain information to be given in writing, if such information contained in the electronic record is accessible. In addition, e-signature has been recognised as having the same legal status as a wet-ink signature. The application of the ordinance is however expressly excluded from certain documents which are typically required to be presented physically, such as negotiable instruments. However, the Ordinance does not apply to certain documents, which are typically required to be presented with wet-ink signatures. Negotiable instruments, power of attorney and trust documents are amongst the types of document excluded from application of the Ordinance, which means many types of financial documents still need to be in hard-copy.

On the other hand, the focus of local developments so far has been on creating the technological infrastructure to support a more efficient trade finance operation. In 2017, the Hong Kong Monetary Authority and a consortium of major banks in Hong Kong launched eTradeConnect, a blockchain-based trade finance platform that enables digitising trade documents and automating trade finance processes. The Hong Kong Government has also published specific technical requirements on electronic signatures / records for the purposes of the Electronic Transactions Ordinance in October 2021.

There have been several bilateral initiatives to develop the interconnection of trade finance platforms with other jurisdictions such as the EU and China.

To further the technical trade finance initiatives, the adoption of the MLETR could be a natural next step. The Hong Kong authorities’ view on the MLETR remains to be seen in this regard.

**England and Wales**

From an English law perspective, efforts have been focused on reforms within the current legislative framework that will be needed to accommodate electronic trade documents. Key to this is how to address the transfer of “possession” via an electronic
system. Without this, an electronic document cannot be recognised as a negotiable instrument under the Bill of Lading Act 1882. The UK Law Commission recently consulted on proposed legislative reforms to accommodate electronic trade documents. The consultation version of the Draft Bill (due to be submitted to Parliament in 2022) identifies seven types of trade documents where a legal change is required to allow them to be legally effective in their electronic form. The common thread linking these documents is that they are documentary intangibles (i.e. paper documents which actually embody, rather than merely record, an obligation), possession of which is material (because the lawful holder of the document is recognised by law as having the right to claim performance of the obligation embodied in it). The Draft Bill sets out the proposed criteria which would, if met, make an electronic document capable of being possessed in the eyes of the law. These are: a) the electronic trade document must have an existence independent of both the law and persons (i.e. existence which is not solely grounded in a legal right); b) the electronic document must be capable of being exclusively controlled (not be subject to concurrent assertions of control); and c) such document must be fully divested on transfer (that is, if a person A transfers the document to person B, person A must no longer be able to control the document).

Another promising feature of the Draft Bill is that it takes into account that many legal systems do not treat electronic trade documents as legally effective and so contemplates the ability to change the medium of trade documents from electronic to paper and vice versa.

The Law Commission proposals have been developed with MLETR in mind and seek consistency with its spirit, with some differences to take into account the particularities of English law. For example, the Draft Bill does not include sea waybills or airway bills given that these are not classed as transferable documents under the law of England and Wales.

Aside from legislative proposals, a number of associations such as the International Trade and Forfaiting Association (ITFA) have considered whether it would be possible to create an electronic instrument that has the features of a negotiable instrument and is an enforceable debt obligation despite not being considered a negotiable instrument for the purposes of Bills of Exchange Act 1882, thus avoiding the discussion on the need to consider transfer of possession under such Act. In April 2020 the ITFA introduced a new digital electronic payment undertaking that aims to fulfil the requirements of a traditional negotiable instrument and function as a digital equivalent of a bill of exchange or promissory note.

**European Union**

There are no EU-wide laws specifically granting electronic transferable records equivalence to hard-copy transferable records. Use of electronic signatures is facilitated and regulated by Regulation (EU) No 910/2014 (the eIDAS Regulation) which came into force in 2016 and has direct effect in Member States. However, laws relating to functional equivalence and possession of records vary between Member States. In Germany, for example, the 2013 update to the German Commercial Code recognised many types of electronic transportation documents as functionally equivalent to their hard-copy counterparts (e.g. bills of lading, consignment notes, sea waybills) provided the authenticity and integrity of the records is secured.
United States

The legal equivalency of electronic transferable records and the validity of electronic signatures have been recognized in the United States through legislation at both the state level - through the Uniform Electronic Transactions Act (UETA), which has been adopted by 48 states and Washington DC, with New York and Illinois relying on their own alternative e-signature statutes - and at the federal level, since 2000, with the passing of the Electronic Signatures in Global and National Commerce (ESIGN) Act. Both of these statutory frameworks, similarly to the MLETR, are technologically neutral and reinforce the principle that “a signature, contract, or other record may not be denied legal effect, validity, or enforceability solely because it is in electronic form”. 15 U.S.C. §7001(a). It should be noted that UETA and ESIGN simply supplement contract law, to permit parties to transact business electronically.

One notable exception to the applicability of both ESIGN and UETA, however, is a contract or other record to the extent it is governed by the Uniform Commercial Code, other than sections 1-107 (Waiver of Renunciation of Claim or Right After Breach), 1-206 (Statute of Frauds for Kinds of Personal Property Not Otherwise Covered), Article 2 (Sales), and Article 2A (Leases). Thus, when the legal effectiveness, validity and enforceability of an electronic document of title (such as a bill of lading) is in question, the UCC definitions and provisions serve as the primary statutory reference. UCC Article 9 permits the perfection of security interests in electronic documents through gaining and retaining “control” of the electronic document. The “control” that a holder of an electronic document of title must have requires only “a system employed for evidencing the transfer of interests in the electronic document [that] reliably establishes that person as the person to which the electronic document was issued or transferred.” UCC §7-106(a). The MLETR very much parallels the UCC in this regard, defining “control” as the equivalent of possession for purposes of tracking rights in the underlying asset. Under the MLETR, moreover, a party is in “control” of an electronic transferable record if a reliable method is used to: (a) establish exclusive control of that electronic transferable record by a person; and (b) identify that person as the person in control. To be sure, the approach in Article 9 of the UCC served as a model for the MLETR.

While it remains unclear the extent to which the provisions of the MLETR will be adopted by US lawmakers, the existing frameworks under the UETA, ESIGN, and UCC are compatible both in principle and practice with the MLETR.

Digital Trade In International Trade Agreements

Modern free trade agreements (FTAs) increasingly include provisions on digital trade or e-commerce. In many instances, these agreements include obligations relevant to electronic transferable records, such as by limiting restrictions on the use of e-signatures (and enhancing transparency of such restrictions), and requiring parties to
adopt legal frameworks consistent with the UNCITRAL Model Law on Electronic Commerce (1996). In addition, several countries have recently begun concluding specific “digital economy” or “digital trade” agreements. These agreements typically include similar provisions to e-commerce chapters in FTAs, together with certain obligations that are specific to digital trade. For example, the recently concluded the Digital Economy Partnership Agreement ("DEPA") between Singapore, New Zealand and Chile includes a soft obligation on parties to “endeavour to adopt” the MLETR. Several other countries, including China, Korea and Canada, and the United Kingdom have also signalled potential interest in joining the DEPA; while other countries have concluded or are negotiating bilateral agreements (such as the United States-Japan Digital Trade Agreement, the Australia-Singapore Digital Economy Agreement, and the United Kingdom-Singapore Digital Economy Agreement).

At the multilateral level, a group of 86 World Trade Organization Members are negotiating new rules on e-commerce through the Joint Statement Initiative (JSI). While ongoing, these negotiations cover a range of issues relating to electronic signatures, authentication and contracts.

Use cases and potential pitfalls
Blockchain driven trade finance flows
There has been significant momentum across the world, driven by banks, to digitise trade finance. By driving legal recognition of electronic equivalents to tangible documents, MLETR’s international adoption will facilitate this process.

Many trade finance proposals suggest blockchain-based record keeping for the many connected transactions in respect of a trade finance workflow. This enables parties to have oversight of the process, trust a central register and minimise any processing time. Using electronic equivalents for documents will allow financial institutions to review and approve documentation at the click of a button without on the ground verification and will permit large trade flows to happen through the instantaneous exchange of connected data streams.

All parties can, where appropriate, have access to verify such online documents and come together to collectively agree transactions. Built-in automation, with pre-agreed parameters, can allow events to take place simultaneously upon agreed form documents being submitted, greatly reducing administration and bureaucracy.

There are, of course, risks to be considered in any online platform facilitating cross border financing arrangements. Extensive diligence and audit by the parties will be needed at the initial stage to ensure that any automated process is tightly controlled, reversible and subject to the operator’s oversight. One aspect is the impact of financial crime risk, which we have discussed in depth in a previous client briefing. In particular, participants in a transaction may find themselves incurring sanctions risk where the trade platform they are connected to facilitates a trade with a counterparty which is, for example, a target of sanctions or from a sanctioned jurisdiction.

Platforms for arranging trade finance products
By enabling online documentation to be used internationally, financiers will be able to review and commit to facilities upon submission of the relevant trade documents (required to secure facilities) online.

Several international platforms have purported to create online forums for financiers to connect with traders in need of finance and agree on specific facilities for specific transactions.

With the ability to receive and verify supporting documents in electronic form, as the MLETR envisages, the adoption of such platforms can be accelerated. There is great potential for the harnessing of transaction-specific data, backed by the applicable trade documents, to target, almost instantaneously, the applicable and most cost-effective finance product available. This is an exciting prospect to greatly facilitate trade around the world.

Conclusion
We could see significant progress in the transition toward digital trade in 2022, as momentum builds internationally in addressing the gap between technological potential and legal frameworks. The use of electronic transferable records in international trade is likely to increase as more countries adopt the MLETR and as confidence in electronic platforms rises. Potential benefits include faster transactions, lower costs, mitigation of fraud and forgeries and reducing the environmental impact of paper-based trades. Indeed, the ICC estimates that the value of trade between G7 countries could increase by $9 trillion over the next five years with full digitisation.10

Bahrain, Singapore and Abu Dhabi’s early adoption of MLETR, along with the G7’s framework on the MLETR, pave the way for more countries to adopt the MLETR. Many countries that have not yet adopted MLETR have contemplated and developed laws that either allow, or lay foundations for, the legal recognition of electronic transferable records. With 2021 bringing us the world’s first digital trade financing pilot between MLETR-harmonised jurisdictions, important steps in legislative reform scheduled for 2022, and COVID-19 spurring focus on legal and technological facilitation of digital trade, the coming year may bring significant advancements. After a number of false dawns on legislative reform for trade digitalisation, MLETR together with other rules and frameworks for the use of electronic transferable records appear set to greatly improve global trade and commerce provided that harmonisation can be achieved internationally.

10ICC report, Creating a Modern Digital Trade Ecosystem: Cutting the Cost and Complexity of Trade, October 2021.
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