



# Transitioning into the future of securities post-trade



# Contents

Foreword	3
1. Introduction	4
2. The future of post-trade	5
2.1 Solid foundations: what harmonisation has been achieved so far?	5
2.2 Barriers and threats to a harmonised post-trade industry	8
2.3 What might an Amazonised securities post-trade industry look like?	11
2.4 How does securities post-trade get closer to the Amazon experience?	14
3. Conclusion	20

# Foreword: Amazonising securities post-trade

I have just placed an order on my Amazon app. I searched for the item, found what I wanted, selected the seller, placed the item in my basket, committed to a purchase and confirmed my delivery and payment details in less than one minute

I immediately receive an order confirmation from Amazon, and tracking notifications of the item's post-execution journey from the seller in Germany to my front-door in UK for delivery the following day. In similar transactions, the delivery from a UK distribution centre arrived the same day.

With this speed of delivery, I often find myself asking a fundamental question: if we can order on Amazon for same day or next day physical delivery, and if we can buy software and download it immediately after paying for it, why do we have to wait two days for our securities, which are transferred electronically (by book entry), to arrive in our account?

Granted, there are significant differences between an Amazon order and a securities transaction, with the latter containing nuances such as stamp duty and tax, among others. However, in a much-lauded post-crisis 'harmonised' Europe, how far will current initiatives to improve efficiency take us? How will a regulation for central securities depositories ensure we settle on the intended settlement date? Should we need to wait 18 months for a Target2-Securities (T2S) or SWIFT change request? Is 15 years an acceptable timeframe for European Union infrastructure changes such as T2S?

This whitepaper explores what has been done to improve efficiency, what is needed to 'Amazonise' securities post-trade and how the future landscape might look.

**GTB Securities Services Market Advocacy,**

Emma Johnson | [emma.johnson@db.com](mailto:emma.johnson@db.com)

Marko Niederheide | [marko.niederheide@db.com](mailto:marko.niederheide@db.com)

Britta Woernle | [britta.woernle@db.com](mailto:britta.woernle@db.com)

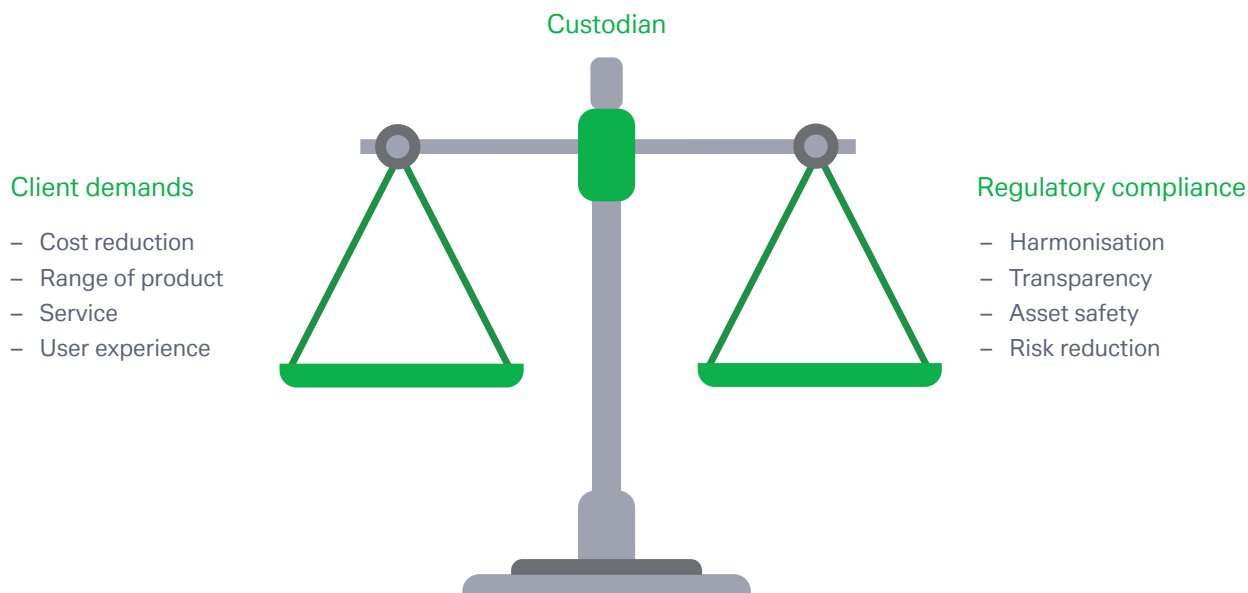
# 1 Introduction

In recent years, securities post-trade industry participants, from the issuer through to the investor, have faced dramatic changes, which have, or will, transform business models, operational processes, products and relationships

The regulator's focus has been on harmonisation, transparency, asset safety and risk reduction. The investor's focus has been on cost reduction, range of product, service and the user experience. The custodian, meanwhile, has been spinning the plates; balancing regulatory compliance with meeting its clients' demands. In achieving this balance custodians are often bearing the cost of both, while adapting to market infrastructure change and keeping up with the bold new protagonists.

For all actors, whatever their position, the upheaval and financial commitment required for such change have been huge. Yet, more than 10 years on from the crisis, have they brought the industry closer to where it wants and needs to be? Of course, the answer to this question will depend on the experiences, position and perspective of each participant as well as their own vision for the future.

Figure 1: Balancing the regulatory and client demands



## 2 The future of post-trade

So what does the future of securities post-trade look like? This paper considers the question by exploring four integral and interdependent industry themes:

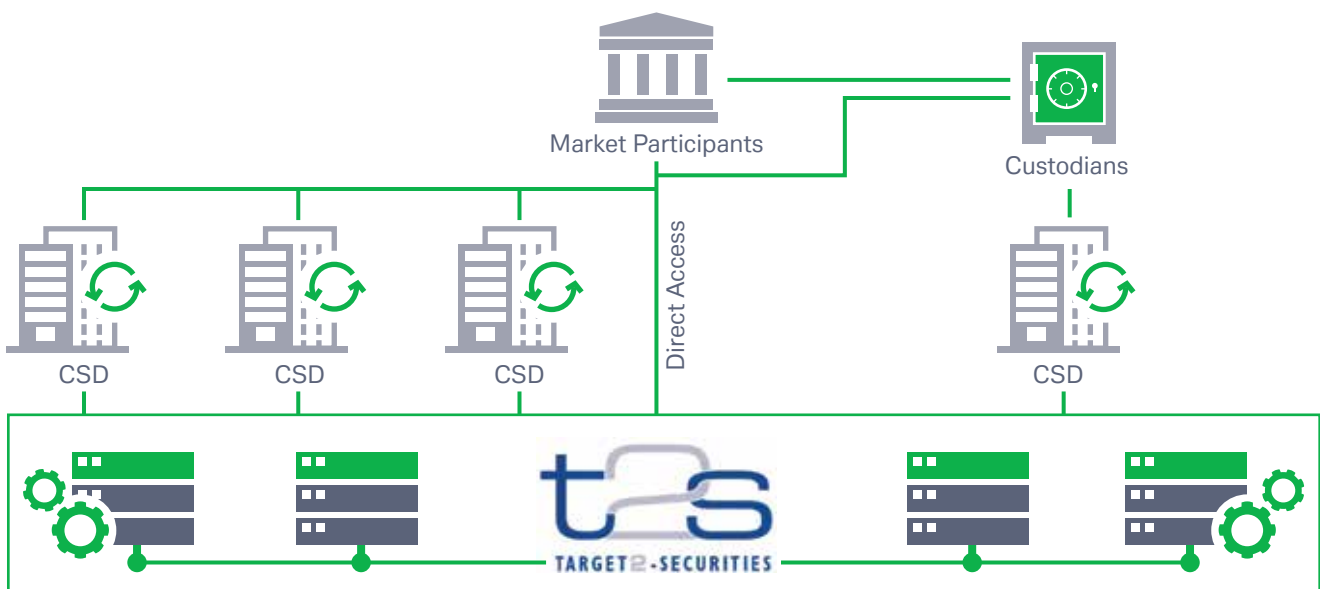
- I. Solid foundations: what harmonisation has been achieved so far?
- II. Barriers and threats to a harmonised post-trade industry
- III. What might an Amazonised securities post-trade industry look like?
- IV. How does securities post-trade get closer to the Amazon experience?

### 2.1 Solid foundations: what harmonisation has been achieved so far?

#### i) T2S and the ongoing Eurosystem harmonisation agenda

Creating an integrated low-risk and low-cost post-trade environment requires a high degree of standardisation and interoperability. The European Central Bank (ECB)'s T2S has played an important role in recent years in achieving this for cross-border securities settlement among 24 central securities depositories (CSDs), by providing a common settlement platform for securities settlement across European securities markets (see Figure 2).

Figure 2: The future landscape with T2S



Source: ECB



While more needs to be done and at a greater speed than before, T2S has propelled the market further towards harmonisation in the areas of corporate actions, a common settlement day, settlement finality and matching fields.

It has also galvanised progress in securities processing: the harmonised functionality for the 24 CSDs in T2S has, in principle, enabled domestic and cross-CSD settlement via a single T2S CSD (subject to CSD links being in place). Liquidity usage can be optimised through euro cash pooling via a single dedicated cash account across the T2S markets whilst auto-collateralisation has helped to improve cash liquidity usage.

With the Eurosystem's consolidation of Target2 (T2) – the real-time gross settlement (RTGS) system for the processing and settlement of payment orders in central bank money – with T2S planned for November 2021, the ECB is planning to further drive process optimisation by introducing some operational and technical synergies across all Target services.<sup>2</sup> While the cost benefits of these synergies to banks are limited, the consolidation will help optimise liquidity management across all Target services.

Completing the ECB's current scheduled pipeline is the Eurosystem Collateral Management System (ECMS).<sup>3</sup> Planned for go-live in November 2022, the ECMS will replace the legacy collateral management systems of the 19 Eurosystem National Central Banks (NCBs) which connect to it with a single harmonised platform. Its success relies upon further standardisation, which is currently being proposed through the Collateral Management Harmonisation Task Force (CMH-TF) as mandated by the Advisory Group on Market Infrastructures for Securities and Collateral (AMI-SeCo). However, some of the changes proposed by the CMH-TF go beyond what is actually required which could result in standards being imposed on market participants and investors that may not be used in practice. For example, the proposal that ECMS will require ISO 20022 messaging for corporate actions would impose changes to the markets which opted in to the collateral harmonisation activities – including the UK, Norway and Switzerland – but who ultimately will not connect to ECMS.

## ii) Regulation

In the last 10 years the regulatory agenda has tackled all aspects of securities post-trade, including initiatives attempting to remove the barriers preventing a more integrated post-trade landscape. In response to the Giovannini reports of 2001 and 2003, which addressed 15 barriers to efficient cross-border settlement and clearing,<sup>4</sup> we have witnessed numerous significant regulatory developments. The introduction of the European Market Infrastructure Regulation (EMIR) in 2012, the ongoing introduction of the Central Securities Depository Regulation (CSDR) since 2014 and the global Principles for Financial Markets Infrastructures (PFMI) from 2012 onwards<sup>5</sup> have each been pivotal in their focus on the transparency, risk reduction, behaviour and efficiency of systemically important market infrastructures and their participants.

Of the current regulatory initiatives, CSDR and the EU Shareholder Rights Directive (SRD II) are firmly on the radar and are hugely impactful to all securities participants

including investors, issuers, CSDs and custodians. These two regulations emphasise transparency, a principle theme for regulators in post-crisis Europe in terms of post-trade messaging, reporting and operational efficiency. Their undertones are on investor protection, timeliness, speed and efficiency and, in the case of CSDR, uniformity and standardised market practice.

CSDR, and its demand for increased settlement efficiency, is a step towards achieving the goals set out in the foreword to this paper. When considering the Amazon example, a failure to deliver goods on the intended delivery date could be escalated to the retailer, followed by a cancellation and the purchase of goods from another seller. If desired by the buyer, their poor experience could be reflected in a feedback form. In a not too dissimilar fashion, under CSDR, the CSD will invoke penalties for the late settlement of securities and mandate a buy-in for securities not received by the buyer (from) four days after the transaction has taken place. The buyer will then purchase securities from an alternative source.

We believe that CSDR is hugely positive for the industry as a whole and signifies a big step towards achieving post-trade standardisation, efficiency and discipline. The benefits of the regulation to post-trade industry participants are addressed in our guide.<sup>6</sup>

### iii) What challenges remain?

#### (a) Settlement volumes

From feedback in industry forums we have learned that across the 24 CSDs on the T2S platform, an average of 600,000 instructions are processed per day. One of the objectives of T2S was to increase cross-CSD settlement. While this may still happen, the ECB's statistics suggest that, so far, cross-CSD settlement volumes are low at just below 1%.

Currently T2S covers only two currencies – the euro and the Danish Kroner (following Denmark's migration to T2S in October 2018). The fact that no further currencies are on the horizon for migration is itself a stumbling block. An integrated Europe should be able to manage multi-currency; a precursor for getting more flow on to the platform.

#### (b) Regulation

While CSDR has brought positive changes, there are remaining challenges. For example, some investors' operational processes might not be fully automated and possibly be reliant on e-mail or other manual / non-straight-through-processing (STP) interfaces permitted by their securities servicers. This set-up may hinder their own settlement efficiency and, by default, others in the settlement chain, which goes against the objectives of CSDR and the vision set out in this paper. The success of CSDR will depend largely on how much the industry as a whole will change its current processing.

The impact of extra-territoriality is, as always, a key challenge for regulations such as CSDR and SRD II. There is a pressing need to educate foreign investors on new European rules and the risk they will face if they do not make meaningful

changes. As with any regulation, the industry dialogue is lengthy and the battle to identify and implement a 'single version of the truth' is tricky. Positive industry collaboration from all actors across all impacted jurisdictions paves the way for integrated solutions. However, as implementation dates draw nearer and the number of participants waking up to the challenge grows, repetition creeps in and progress appears to stall.

A disorderly implementation, without clarity of the implications, could damage investor confidence and fail to achieve the potential that each regulation promises for the future of European post-trade. However, while the push towards increased efficiency is challenging, regulation will ultimately force change and it is in the interest of all parties to examine how their processes are working and how they will be impacted. Change is required throughout the securities lifecycle and herein lies both the benefit and the challenge.

Figure 3: Transitioning into the future of securities post-trade



SFTR: Securities Finance Transaction Regulation  
 AMLD V: The fifth EU Anti-Money Laundering Directive  
 AIFMD / UCITS: Alternative Investment Fund Managers Directive / Undertakings for Collective Investments in Transferable Securities  
 EONIA: Euro Overnight Index Average  
 ESTER: euro short-term rate  
 SONIA: Sterling Overnight Interbank Average Rate

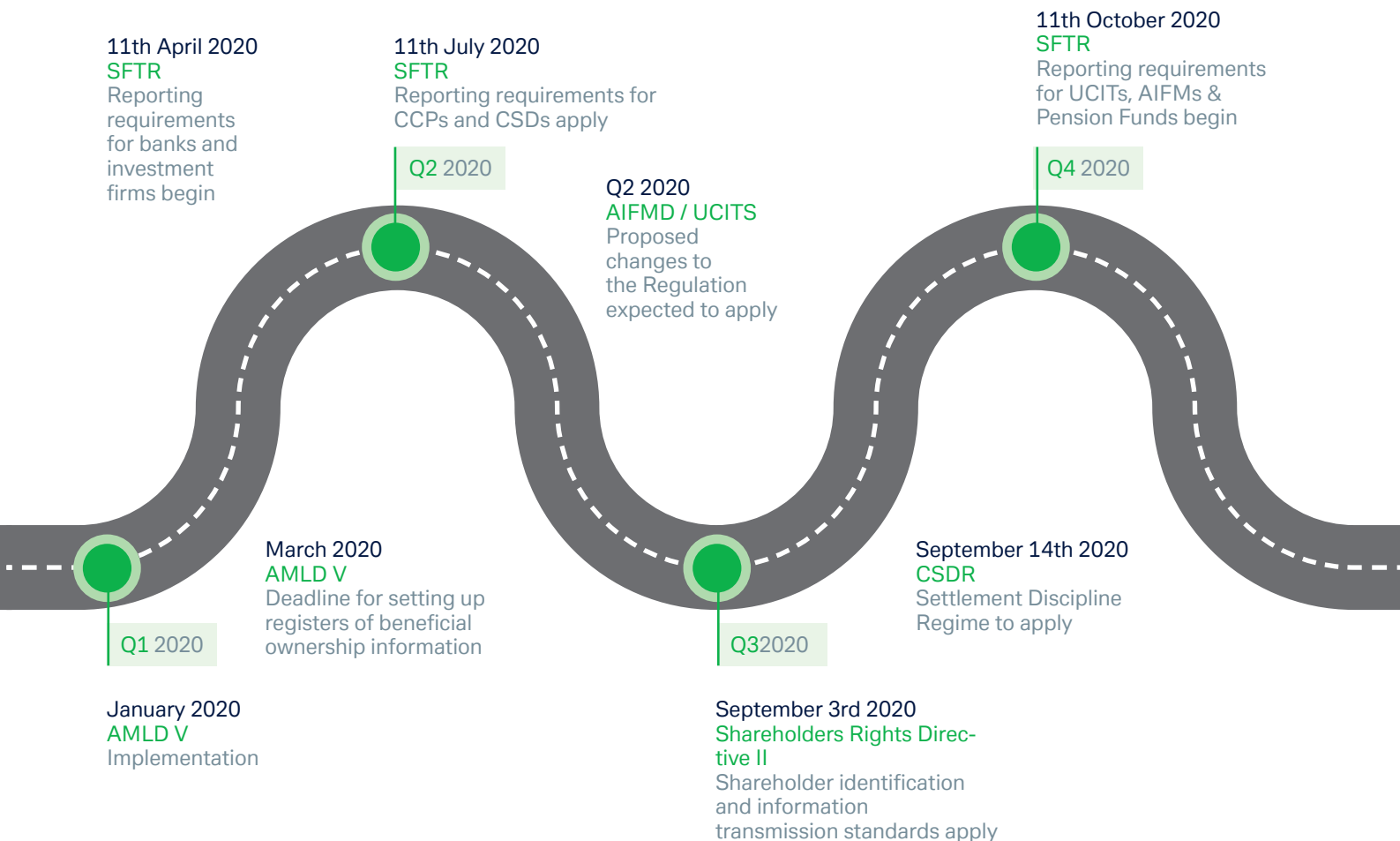


## 2.2 Barriers and threats to a harmonised post-trade industry

### i) Cost

Building solid foundations comes at a cost. Participants in the value chain have tried to recoup the costs of T2S implementation: CSDs have passed on their investment costs, at least partially, to intermediaries such as custodians, who have either absorbed these costs on top of their own settlement cost or have passed them down to their clients.

One expectation was that with T2S cross-CSD settlement costs would reduce to the same, or similar, level as those for domestic settlement. On one hand, this objective has been achieved: the cost of cross-CSD settlement has decreased. However, at the same time, domestic settlement costs have risen. This issue has been further compounded by the ECB's revised pricing schedule, which increased the base



delivery versus payment (DvP) settlement instruction fee from 15 cents to 23.5 cents from January 2019. These measures attempt to compensate for a lack of volume on the T2S platform. However, increased pricing is rather a barrier than a solution.

The ECB's ambition and key rationale for T2S was to make Europe more accessible and affordable for investors. Yet, compared with the average cost of a settlement instruction of 10 cents in the US, the minimum cost in T2S is 23.5 cents, excluding any additional fees such as matching and messaging, which can add another 11 cents to a single settlement instruction. The total fee of approximately 30 cents per instruction does not factor in cancellations, amendments and the recycling of pending instructions.

Regulatory reform was absolutely necessary post-crisis, and it has been positive, but the cost to the industry of achieving it has been vast. The disproportionate cost and burden of implementing and adhering to regulation should be reduced. As a silver lining, the emergence of Big Data presents opportunities to rationalise the considerable amount of regulatory reporting required.

#### i) National differences impacting post-trade

The European Post-Trade Forum (EPTF) Report from May 2017 highlights twelve barriers to a fully harmonised post-trade environment – these include five new barriers and seven from the original Giovannini barriers. Eleven of these barriers require legal changes, particularly around tax. Unified European legislation is needed to fully dissolve these barriers.

Putting these barriers into context, while 24 European CSDs connect to T2S, each of the 24 markets has diverging national rules and market practices relating to:

- Information and static data in order to settle in different EU member states;
- Legal regimes;
- Insolvency frameworks and conflict of law rules;
- Legal treatment of bilateral netting;
- Treatment of interests in securities;
- Definitions of a shareholder, including different protocols for corporate actions and general meeting processes;
- Transposition of EU directives in to local law;
- Securities issuance practices;
- Tax collection procedures.

These are just a selection in addition to the EPTF barriers. They principally deter cross-border settlement and are barriers to European growth.

At the forefront is the theme of tax. However, this requires national change, often beyond the scope of capital markets, and is hugely complex. While differing tax regimes strengthen market competition, differing operational withholding tax procedures do not. In November 2017 the European Commission published its Code

of Conduct on withholding tax procedures, which may require legal changes by the member states in order to overcome and adapt. The AMI-SeCo has this firmly on its radar and, while standards have not yet been agreed, stakeholders have at least agreed on a roadmap to resolve the outstanding issues. Meanwhile, close cooperation between the European Commission and the Organisation on Economic Cooperation and Development (OECD) would help a proper implementation of the Tax Relief and Compliance Enhancement (TRACE) project. Engaging with the wider financial services sector and the investment community should bring about more workable solutions for all actors in the process including investors.

Similarly, securities law is hugely complex – with property law often embedded in national law beyond financial markets. The much-anticipated Securities Law Legislation fails to be firmly on the regulatory agenda given member states do not want it. Given these barriers, it is hardly surprising that custodians and CSDs often seek legal opinions as to whether securities purchased in a different country are actually safe in a local account. A Capital Markets Union should mean that European investors are treated the same in all European countries.

Without European Commission legislation, member states agreeing on elements such as a standard tax procedures and a harmonised securities law regime, the industry will continue to experience fragmentation across the member states. In the same way that Amazon requires standardisation and interoperability to act efficiently, the post-trade securities industry requires a single gateway with standardised rules, laws and practices to entice foreign (and even local) investors with the same levels of service.

### iii) The threats of an uneven playing field

While the harmonisation benefits of EMIR and CSDR are clear, there are regulations such as the Settlement Finality Directive, Markets in Financial Instruments Directive (MIFID) and the SRD which have country-specific implementation. The gold-plating used by member states to implement the minimum EU requirements outlined in directives make it difficult for service providers to implement and offer a single harmonised European approach to their clients. Not only do directives create a fragmented regulatory landscape, they also add to the national divergence of the way these regulations are implemented across Europe. The national infrastructures, rules and laws of Europe's 28 markets do not cater for an amazon-like platform. A solution to that dilemma would be the adoption of regulations directly applicable to all Member States, thereby avoiding the fragmentation of divergent national transpositions.

Furthermore, as fintechs enter the industry with few barriers to entry, a level playing field is required to ensure that the same rules around transparency, investor protection and stability are consistent in the digital era. The inconsistency of current global regulatory regimes makes regulatory intervention even more critical. If new 'crypto' assets are to be borderless then a consistent global regime is needed to protect investors and avoid contagion, corruption, theft and fraud. While an un-level playing field for crypto asset is documented here as a threat, it is pleasing to note that regulators are now focusing on digital assets. Further regulatory developments and a likely revision to the existing clearing, settlement, safekeeping and record keeping regulations are needed in order to accommodate digital assets as safely, and as uniformly as possible,.

#### iv) Agility

Eliminating some key national differences, as highlighted in the previous section, would require changes that if agreed, could take another decade to materialise. The rigidity and interwoven nature of the industry, based on provider / infrastructure dependency, makes the ability to instigate and deliver change very protracted. For example, a T2S change request has an average 18 month delivery cycle, notwithstanding the debate and advocacy required first to identify, agree and propose the change which can take many months in itself. A highly complex governance framework - consisting of the ECB, 20 central banks, 24 CSDs and market participants each with their own specific agenda and requirements does not help in speeding up the 18-month implementation cycle when change requires all of them to agree.

One could even argue that without the introduction of T2S the European post-trade industry would have invested in new technologies and services, perhaps at a lower cost than what it has cost to implement T2S. In this context, is T2S scalable enough for the future? With technology developments and product innovation such as DLT / Blockchain, artificial intelligence and digital assets firmly on the agenda, T2S as the common European infrastructure will need to adapt or, risks becoming obsolete. The ECB has set up a Fintech Task Force that deals with digital topics on its harmonisation radar. This must be agile enough to keep pace with the Fintechs and the new entrants.

### 2.3 What might an Amazonised securities post-trade industry look like?

In comparing the Amazon experience with the efficiency achieved in securities post-trade to date, the former is based on an enviable concept that includes: a seemingly boundary-less product suite, efficient distribution, a user-friendly app, payment and delivery standard settlement instructions (SSIs) and a chatbot for customer queries. At first glance it seems incomparable to the securities industry. However, the possibility of 24 national CSDs outsourcing their settlement business complete with all their national characteristics to a centralised system is worth considering. Furthermore, the efficiency created through having an interface sitting on top of those CSDs, harmonising and normalising a single service for investors, makes this comparison even more palatable, and begs further contemplation of whether an Amazon could be created for securities.

This soul-searching sets off an exploration of what has already been achieved through T2S and explores what could be done to bring the industry more in line with the Amazon experience. On the Amazon platform many players can contract, provide services and interact. On T2S the only contractual players are the T2S infrastructure and CSDs. Given this set-up, it is not unrealistic to visualise a future post-trade industry consisting of a commoditised layer with a menu of products, services and solutions for the investor. In this scenario, traditional products such as trading, foreign currency exchange, clearing, settlement, asset servicing, cash management and safe-keeping could sit side-by-side and could be accessed via an app, an API, or by other means preferred by the client.

Further possibilities are presented in the context of the data revolution: transparency, risk measurement and management, behaviour and efficiency benchmarking will uphold the risk and integrity of post-trade while settlement analytics could become a commodity in its own right and trigger client-centric services. These services could allow clients to plug and play solutions such as data analytics, liquidity, collateral management, inventory management and asset optimisation including lending and borrowing. These should be easily accessed and self-selected, allowing for true product and service unbundling.

Availability is also key to matching the Amazon experience. Compared to the Amazon platform - which operates 24 hours a day, seven days a week and 365 days a year - T2S only operates on weekdays and is closed in some parts of the night for maintenance. Currently central counterparties (CCPs) are interposed between the buyer and seller to eliminate counterparty risk, introducing a process step to prevent spontaneous delivery of securities. Given the onset of new technologies such as blockchain, a key question is whether these parties are still needed in the securities space? Real-time payments are already possible today and could be the starting point for a further compression in the securities delivery cycle. A key question should be how does the securities industry evolve beyond the traditional post-execution securities hierarchy – a spaghetti web of actors, interdependency and latency?

In the context of harmonisation it is fair to say that while T2S has harmonised the processing cycle and created a common settlement day, the project has tangled the spaghetti web even further. Cross CSD settlement actually needs to cater for 24 different legal regimes and complex realignments, as highlighted earlier in this paper.

The use of a single T2S CSD to access Europe provides the opportunity to consolidate assets. However, this may have cost implications when assets are held through an investor CSD rather than at the issuer CSD directly. This may be a way for CSDs to maintain their monopoly.

The key actors of an envisioned Amazonised securities post-trade  
Envisioning an Amazonized post-trade requires a comparison of the key roles and responsibilities of the main actors in the platform with those in post-trade. In case of Amazon, multiple sellers independently contract with the platform's single gateway, which allows buyers to purchase their products and proprietary services from books, to music albums to TV series. Physical delivery of those products are fulfilled through mechanisms such as Yodel, DHL and DPD, while services can be accessed directly through a plug-and-play model.

Amazon's operating model could be likened to an integrated low-risk and low-cost post-trade environment. Potential niches and specialisms could evolve and perhaps be labelled #OpenSecuritiesServices. Apps and services could be packaged and purchased not by market, but by product or service. Given these possibilities, while the analogy may seem somewhat crude, it is not unreasonable to anticipate the following roles and functions evolving in the future of post-trade:

- A European CSD, or ESCD, sitting above the national CSDs eliminating the processing-related barriers. A European Central Securities Depository (ECSD) in essence is the Amazon shell, or single gateway to which multiple sellers or issuers contract;
- Issuers would then issue securities or cryptoassets in to the ECSD;
- A common ECSD user ID, like the already existing legal entity identifier (LEI), should be used for all parties connecting. This would provide investor transparency and potentially shareholder reporting;
- The ESCD, or a settlement agent, could provide the utility function to guarantee the transfer of securities to their rightful owner and ensure that transactions are done quickly and efficiently;
- The custodian, as the trusted partner to customers, will of course diversify. As a provider of connectivity to the platform and a provider unbundled ancillary products and services, the custodian would provide client centric solutions, allowing them to plug and play services such as custody, asset servicing, lending, borrowing and asset optimisation. Settlement may also still feature as a service.

## 2.4 How does securities post-trade get closer to the Amazon experience?

Building on the regulatory agenda and the harmonisation initiatives to date this paper recommends five areas of focus to continue to bring the industry closer to an Amazonised state.

### i) Finishing the task of harmonisation with T2S

Perhaps most pivotal to the growth and success of T2S and a harmonised, integrated pan-European settlement platform is the ongoing initiative to bring the additional volumes from European markets onto the T2S platform. This could help to lower the T2S settlement fees whilst the uniformity of processing could also help to convince non-European investors to consolidate their assets in T2S markets. Furthermore Eurobonds, desired by the ECB to bolster collateral management and tri-party, are of significant benefit to its ECMS programme. With this vision, the ECB continues to strive for a solution that would allow for the efficient settlement of Eurobonds on T2S. While these efforts are laudable, the success of T2S will continue to be impeded by settlement volumes sitting outside of T2S.

The introduction of new markets in T2S would be a step towards European market integration, eventually achieving the much needed economies of scale required to bring the price per settlement down. However, the addition of new countries is complex, protracted and politically challenging. This would need to change.

### ii) A regulatory agenda for the new order

Following a decade of regulatory change, it is useful to pause to reflect on what the medicine has achieved thus far and what further doses, if any, are required. While elements of existing regulation such as CSDR and SRD II would benefit from targeted improvements, a notable shift in regulatory priorities from safety, transparency and investor protection to growth, competition, innovation and cyber risk has been welcomed.

Meanwhile, the continued need for transparency should not be underestimated and there is work still to do here. The potential benefits of the LEI have not been fully realised beyond the mandatory trading layer to other areas of the securities value chain. However, its prescription to the entire chain through to the CSD, would benefit the buy-in provisions of CSDR and the beneficial owner transparency requirements of SRD II. Further adoption of the LEI throughout the transaction chain will also help anti-money laundering and anti-financial crime causes.

When considering a regulatory agenda for the new era, a shift in focus from the traditional actors to the new entrants, or so called “disruptors”, is needed. It is important for the regulators to consider who the new competitors will be. The question arises if these will be Fintechs or Techfins or the next big thing around the corner. When it appears, “the next big thing” will need to be looked at from a regulatory perspective to ensure that a robust regulatory framework surrounds it, equivalent to the banks and infrastructure it will compete, collaborate, integrate and transact with. A level playing field, comprising the same region, the same rules, the same treatment and the same access requirements, should prevail.



### iii) Political integration

Developing the 'union' in the European Union will play a significant role in achieving a harmonised European post-trade landscape. European elections carry the uncertainty that any new leadership might have new, differing, competing priorities. This could impact operating models, legal provisions and innovation.

Additionally, following Brexit, it remains to be seen if the UK can maintain its leading position in the European financial services industry and remain as influential in the medium- to long-term post-exit.

### iv) Technological innovation

New technologies such as DLT, AI and cloud-based services could improve the collection, management and distribution of information. This creates the potential to deliver new post-trade processes that are much more efficient and effective than the old. In part this could be due to the possibility that restrictions imposed by national borders will be broken down and solutions can be implemented on a pan-European basis. New technologies provide the potential of this dream becoming a reality.

### v) Embracing competition and new roles

The European post-trade agenda should cater for more competition, not less, in all shapes and forms. Account structures have been harmonised through CSDR, EMIR and MiFID II and provide investor choice. Regulatory transparency has led to an unbundling of services providing investors with greater choice. Complementary pricing and products are on the securities servicer's agenda to meet investors' demands for cost transparency, usage and the unbundling of the product and service suite. In addition, legal and tax harmonisation would further facilitate investor choice so that investors can be indifferent to where the settlement and custody location should be.

The entry of non-banks into the custody space would change the competitive landscape, further 'de-layering' post-trade through technology, service and product advancement while rocking the status quo, making the landscape even more complex. Non-traditional players may provide cheaper and more efficient services, leading to a redefinition of roles which will almost certainly have consequences and casualties.

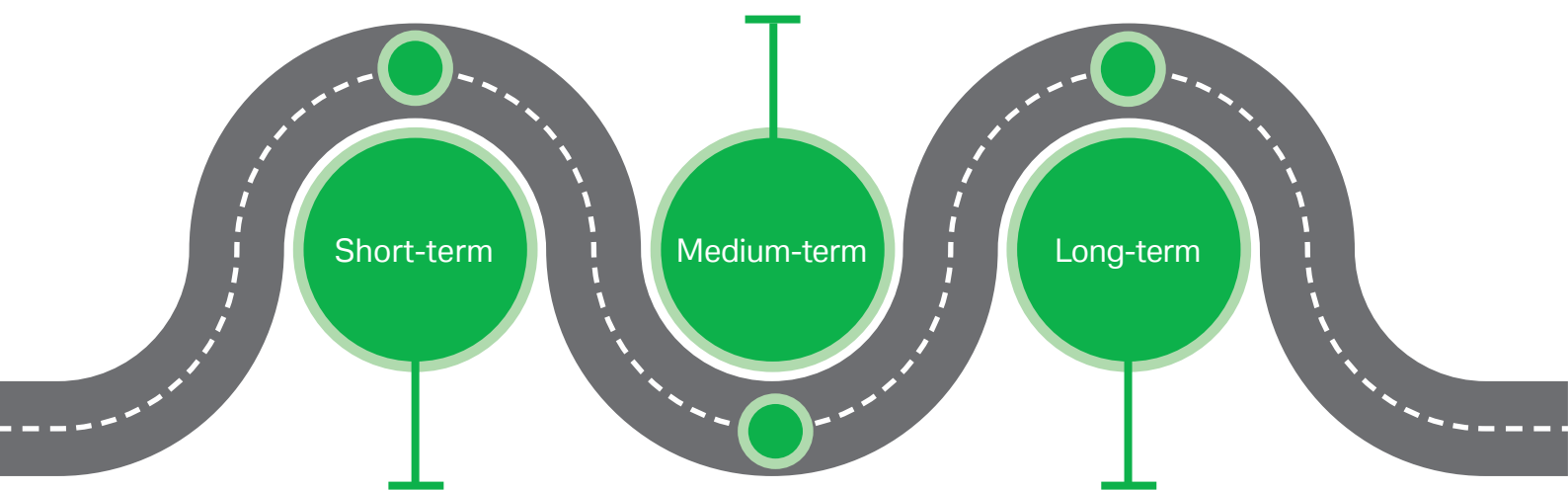
#### (a) The future role of CSDs

The dial has moved; while infrastructure change and regulation were put in place to support the growth and diversification of CSDs, there has not been the uptake. Following the T2S market migrations and the conception of the Investor CSD it would have been logical to assume there would be fewer CSDs as an outcome. However, the Investor CSD, which requires bilateral links with the Issuer CSD, come with overhead costs, technical development, governance and operational issues which may explain the limited flow.

Another development, the 'freedom of issuance' born through CSDR, could create competition across the CSDs. However, this raises several questions including: whether, given cultural differences, a French issuer would, for instance, issue a security in Italy, even if they offered it under French law; whether a CSD would be comfortable offering a framework that is not their home legislation; and whether a smaller CSD would be able to afford the knowledge and expertise.

Figure 5: CSD consolidation roadmap

Consolidation can be expected. The larger CSDs have been able to afford the investments required of T2S, CSDR, PFMI and the ability and license to perform banking services. The smaller CSDs may likely have had to dig very deep just to fund the mandatory changes. Whether they could fund CSD links to keep up with the Investor CSD model is debateable. The more likely outcome is that regional CSD hubs will materialise converging to protect their regions, investors and issuers. It is logical to envisage an Eastern Europe CSD – sitting largely outside of T2S. Western Europe is already served by CSD hub covering three countries, but these are still three different CSDs each with their local market quirks.



All European CSDs will continue to exist given the barriers and challenges previously described and the national notary function they perform. However, the industry should expect a more wholesale progression of CSDs outsourcing their processing to T2S, while maintaining their books and records in a legal 'shell'.

A single European CSD servicing investors through a common interface and processing engine is to be expected. The ECSD will be the DTCC of Europe, a common platform to settle, safe-keep, report and offer, via custodians, the unbundled product and service suite described in this paper. National rights will be aligned required by EU regulation.

(b) The future role of custodians

T2S has seen the roles of the intermediaries in the post-trade space changing. CSDs, particularly the ICSDs, have moved down the value chain with the ambition and opportunity to compete with the custodians. This blurring of the lines has driven custodians to alter their business models and prepare to defend their position. The extent is driven by the actors aligning to disintermediate and disrupt; the (I)CSDs and new entrants. Industry talk about the diminishing role of the custodian should be tempered by the fact they will continue to remain relevant, in demand and with a crucial role to perform both now and in the future.

For as long as there is national divergence and market nuances, as alluded to in this paper, and a lack of a fully harmonised settlement infrastructure, investors will still need intermediaries in the local market to be able to provide the full range of services to their underlying participants, including speaking local languages.

In addition, unbundled, transparent services and products, tailor-made to serve clients' needs with transparent pricing, introduces a new modular approach to settlement and custody. In the same way that customers prefer the choice provided by an Amazon platform, clients favour tailor-made services and solutions provided by custodians. While CSDs try to compete with custodians, they provide the national, sub-regional and pan-regional infrastructures and they do not yet have the enhanced regulatory protection, capital, expertise and balance sheet strength that custodian banks have.

In the short- to mid-term, the landscape is and will only become more competitive to the extent that the role will evolve and even be redefined. Consolidation seems likely – custodians have exited certain markets, consolidating their business and operating centres. The same is envisaged for CSDs. Assuming that a sub-regional and ultimately a pan-European CSD exists, custodians will still be required to uniquely service clients with market relevant services such as corporate actions, advisory and cash management. They will continue to exist in a similar way as the 'DHL' to the Amazon platform.

## 3 Conclusion

Ultimately, the future of post-trade will be shaped by the interplay of all the factors outlined in this paper. The industry is taking steps towards harmonisation and integration. However, without a standardised interface, standardised rules, laws and practices it is very likely, for the foreseeable future at least, that the status quo will remain

The length of this status quo will depend on the proactivity in finishing the tasks described in this paper or until they become too out-dated and / or too costly to maintain. The industry should ask itself whether it should wait until it has fully paid for the T2S developments to reap the benefits of a then 20-year old platform. The clock is ticking, counting down until the disruptors obtain a true measure of what they need to do to service traditional assets with the new. However, the task is so colossal that the new world will co-exist with the existing.

Custodians will evolve. In addition to servicing traditional assets, they will also service crypto assets. Custodians will also become guardians of data and their modular products and services diversifying with the new order through collaboration and performing a variant to their existing role. Meanwhile the landscape for CSDs should look substantially different but essentially their notary services could remain, although these could also be performed by a licensed operator or registrar.

To conclude, technology has always been at the core of the securities services industry. It has been used to achieve standardisation, harmonisation, regulatory compliance, operational efficiency, and develop cost-effective solutions for clients. However, the time for the industry to focus on old-fashioned discipline and operational efficiency is now.

With the goal of Amazonisation, there is no doubt that all of the drivers noted in this paper will need to converge to effect change. The largest challenges remain. The industry can introduce new technology and participants. However, if the foundations are not in place and the barriers and threats not removed, the result will be a new version of the same. Tax and securities law reform and the removal of the existing barriers will set the region free to truly innovate and open up Europe, enticing investors toward a sustainable, profitable future.

1 <https://www.ecb.europa.eu/paym/target/consolidation/html/index.en.html>

2 <https://www.ecb.europa.eu/paym/target/html/index.en.html>

3 <https://www.ecb.europa.eu/paym/coll/html/index.en.html>

4 [https://ec.europa.eu/info/publications/giovannini-reports\\_en](https://ec.europa.eu/info/publications/giovannini-reports_en)

5 [https://www.bis.org/cpmi/info\\_pfmi.htm](https://www.bis.org/cpmi/info_pfmi.htm)

6 <http://cib.db.com/insights-and-initiatives/white-papers/are-you-ready-for-CSDR.htm>

7 [https://ec.europa.eu/info/sites/info/files/170515-eptf-report\\_en.pdf](https://ec.europa.eu/info/sites/info/files/170515-eptf-report_en.pdf)

8 [https://ec.europa.eu/taxation\\_customs/sites/taxation/files/code\\_of\\_conduct\\_on\\_withholding\\_tax.pdf](https://ec.europa.eu/taxation_customs/sites/taxation/files/code_of_conduct_on_withholding_tax.pdf)

9 <http://www.oecd.org/tax/treaties/aboutthetracegroup.htm>



