

# Transforming banking balance sheets

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How the Pan-European  
CSD Solution can drive  
transformational efficiencies  
for banks in Europe

In partnership with

**clearstream**  
DEUTSCHE BÖRSE GROUP

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# Introduction



## EUR 37 million

Today's highly intermediated settlement model in Europe is estimated to be costing the average Tier 1 broker-dealer around **EUR 37 million** per annum in funding inefficiencies, operational costs and lost earnings.

Whilst growing, many of these costs are not new. As financial resilience regulation combines with market pressures and improved cost visibility, **these costs are increasingly visible** – and harder to ignore.

## 84%

First and foremost, **84% of the cost of today's settlement model is likely borne by Treasury, trading front offices, and liquidity managers**. Today's operating model is not an operating problem – it is an opportunity for Treasury and trading front office optimisation.

## EUR 32 million

Today, **banks are beginning to realise over EUR 32 million in annual balance sheet efficiencies, and EUR 6 million in operating savings**, leveraging a consolidated, regional settlement model.

This model is being assessed by a growing number of leading banks and market infrastructures. Whilst limitations remain, the model is already delivering today and looks set to grow exponentially in the near future.

The proposed Savings and Investment Union and forthcoming introduction of accelerated settlement in Europe is driving all market participants to reevaluate how they operate in the region. Settlement, delivered via a single CSD providing integrated pan regional access across T2S and the ICSDs is an enticing proposition in order to operate efficiently at speed, reducing cost and friction.

Based on detailed analytical insights and specialist interviews, this report sets out the practical business case and implementation path that can support market participants as they look to leverage a regional operating model across Europe.

We would welcome the chance to discuss these findings with you as you define your own transformation strategy today.



 the ValueExchange

**Barnaby Nelson**

CEO OF THE VALUEEXCHANGE



**clearstream**  
DEUTSCHE BÖRSE GROUP

**Sam Riley**

CEO OF CLEARSTREAM  
SECURITIES SERVICES

# European post-trade processing today: Current challenges



## Challenges for Treasury and trading front offices

EUR 32 million per annum



Today's securities settlement ecosystem in Europe is complex involving multiple entities including global custodians, wealth managers, broker-dealers and market infrastructures who often have to appoint a sub-custodian to represent them at the depository level in each market. This model often relies on the provision of discretionary intraday credit by local custodian banks to facilitate settlement.

As a result of this complex web of accounts and funding relationships, today's Treasurers and trading front offices are faced with a number of avoidable costs:

Description		Annual cost per firm (EUR million per annum)
<b>Disparate funding accounts:</b>	Having to maintain collateral and funding across multiple locations in Europe, each with additional buffers to avoid any last-minute funding shortfalls, limits optimization opportunities adding to the cost profile	<b>EUR 15m</b>
<b>Funding provisions:</b>	Although not charged-for historically, Basel III rules (notably LCR and NSFR rules) create new costs for firms who rely on intraday credit lines in each local market. With new reserve requirements (aimed at ensuring that banks can continue to operate if those lines were no longer to be available), intraday credit is now generating a balance sheet cost – in addition to the cost of trades that have failed due to lack of credit.	<b>EUR 9m</b>
<b>Poor RWA treatment:</b>	Firms are having to maintain significant reserves because they are not taking advantage of the lower risk weighted assets treatment of FMIs relative to non-FMIs (2% vs 20%).	<b>EUR 8m</b>
<b>Lack of income:</b>	With large amounts of collateral deposited and idle in each local market, there is an ongoing opportunity-cost of lost earnings.	<b>(Variable per structure)</b>



In practice, these challenges have led to inconsistent downsides in recent years. Anecdotally, banks and brokers have seen trades fail because uncommitted credit lines have failed to cover periods of high activity such as index rebalancing and quarter ends – although this happens infrequently enough to be classified as business as usual.



# Challenges for Operations

EUR 6 million per annum

The current infrastructure also creates an ongoing (but often unperceived) resource drain on Operations and Network Management teams, across the following areas:

Description	Annual cost per firm (EUR million per annum)
<p>From a due diligence perspective, questionnaires and on-site visits need to be conducted across <b>multiple providers each year</b> – with the workload growing as operational resilience requirements increase under DORA and other client-led demands.</p> <p>From a connectivity perspective, whilst T2S (the pan-European platform ‘TARGET2-Securities’ has centralized and harmonized the settlement conventions of securities transactions across participating European CSDs, the <b>operational costs of connecting to different service providers</b> (each with their own service standards, message formats and processes) has not been resolved. This can then be amplified by the number of agent bank relationships used across the T2S zone – it is a congested space with considerable operational divergence.</p> <p>This cost intensifies in the face of market change (e.g. T+1), where <b>numerous processes have to be reviewed and revised</b> across multiple banks, creating project management burden and complexity to already challenging market developments.</p> <p>From a trade settlement perspective, the use of sub-custodians creates a multi-layered structure increasing the number of touch points in the settlement ecosystem. With sub-custodians often operating with earlier cut-off times compared to the CSD / T2S they are connecting to, it can increase processing pressures in the overall settlement cycle, elevating the <b>risk of settlement fails</b> for settlements that are instructed close to market deadlines. In the context of CSDR, these pressure points can have a material cost impact extending well beyond internal resourcing costs should the transaction fail to settle, which will be magnified in a T+1 environment.</p> <p>From an administrative perspective, multiple invoices each month from different service providers also <b>adds to operational costs</b> as multiple bills need to be consolidated and reconciled. In short, operational and technical complexity, as well as the associated financial burden, can be simplified when facing a single CSD.</p>	<p><b>EUR 6 million</b></p>

# Management Challenges

**“Historically the true enterprise end-to-end costs of a trade have not been visible. Today, banks have a better understanding than ever of these true costs”**

Phil Brown, Global Head of Relationship Management, Clearstream Securities Services

At an organisational level, firms’ lack of clarity around total costs per trade have historically made a true understanding of business profitability very challenging. A ValueExchange research has highlighted that more than half of sell-side firms are overlooking 22% of their total costs per trade - predominantly due a lack of front to back visibility with treasury and front office trading groups historically tracking their costs independently to operations.

Without this consolidated view, costs might easily be viewed in isolation and therefore treated as exceptional – distorting decision making and masking the need for change.

# Time for change

The Pan-European CSD Solution is not new – nor are the above pressures faced by market participants. Today however, a number of fast-escalating factors are making operating model change more than a possibility:

<b>Basel III:</b> New credit costs	<b>5%</b>	The balance sheet cost of unused credit facilities under Basel III (NSFR) - turning what was previously a concept into a concrete cost.
<b>Improved cost visibility by banks</b>	<b>+43%</b>	The percentage of banks and brokers who have invested in improving visibility of their total costs per trade in the last three years – making the total sum of the above costs more apparent.
<b>Index rebalancing:</b> Increasing credit risk	<b>EUR 5 billion</b>	The average funding requirements for a Tier 1 investor during a significant index rebalancing weekend – creating highly concentrated pressures on settlement banks’ credit facilities and increasing the likelihood of limits being exceeded.
<b>T+1:</b> Compounding funding concentration	<b>83%</b>	The amount of time being removed from settlement and funding cycles under T+1, creating an additional concentration of funding around few short hours (e.g. in the morning).



**“This is an evolution of lots of macro drivers – which make change inevitable”**

Sam Riley, CEO, Clearstream Securities Services

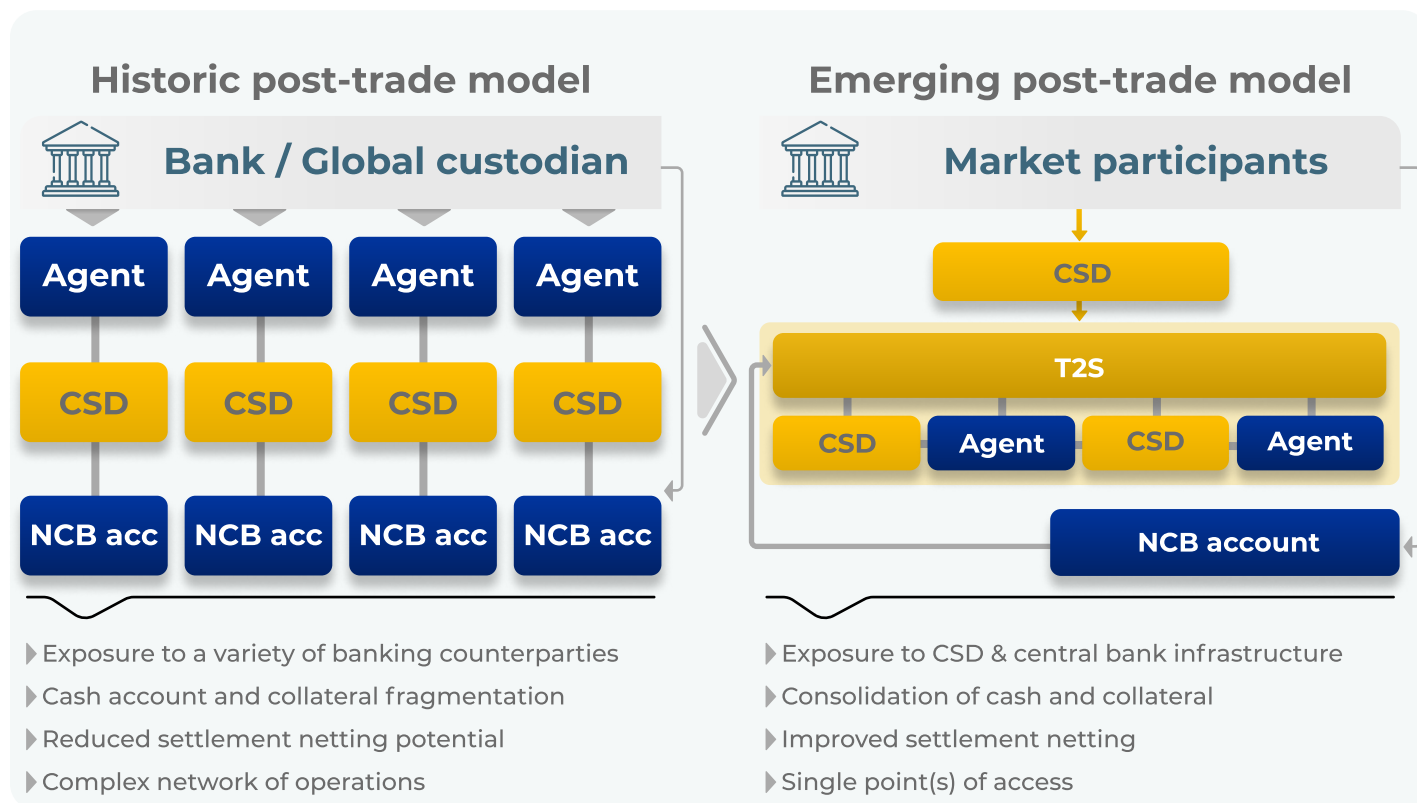




# Introducing EUR 37million in efficiencies: The Pan-European CSD Solution

How to address these costs and fast-growing problems? Today the Pan-European CSD Solution is a reality and is delivering significant efficiencies to banks, brokers, CCPs and CSDs across the European investment spectrum, from institutional to retail players - paving the way for increased harmonisation and regional

## A new settlement model





## Clearstream's Pan-European solution today

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**Market coverage:** Clearstream's CSD is connected to 19 of the largest T2S markets today and expanding (already handling over 50% of the entire T2S settlement volume).



**Asset class coverage:** Across all T2S-eligible asset classes (including government and corporate debt, equities, structured products, ETFs) across 19 of the 23 European countries connected to T2S.



**Trade Flow Hub:** The coverage of trading venues, central counterparties (CCPs) and Debt Management Offices (DMOs) that can settle in the CSD and ICSDs, whilst already comprehensive, is growing in demand.



All these services are delivered **through a single asset servicing platform** and graphical user interfaces (GUI), harmonised with Clearstream's ICSD.



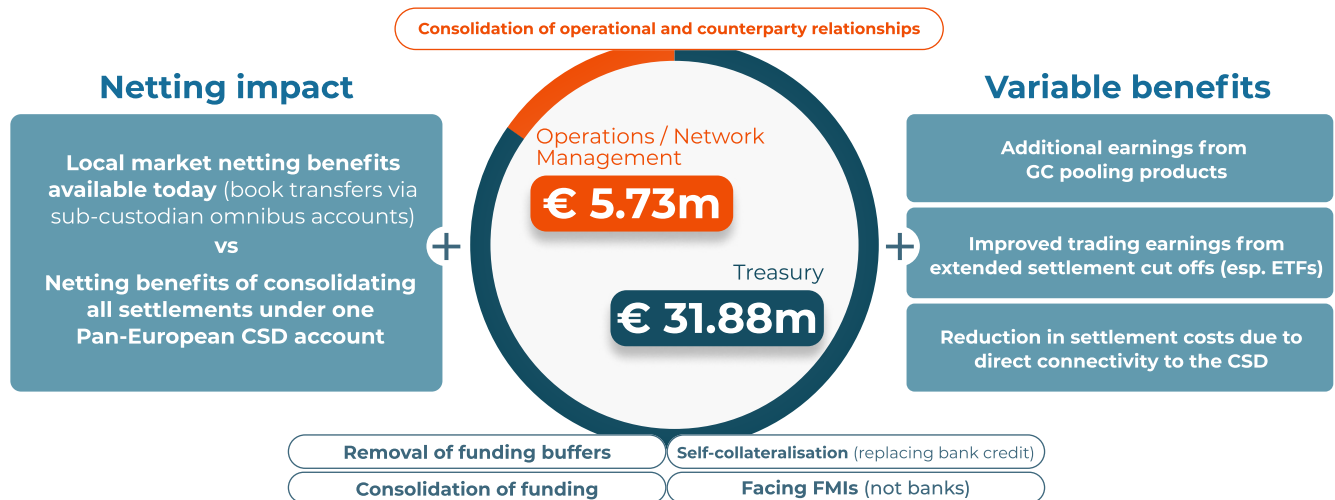
Settlement using central bank money, either via a direct account with the market participant's National Central Bank (NCB), or a sponsored Clearstream Dedicated Cash Account (DCA).



**Single Collateral Platform:** Access to the European Central Bank's single collateral management engine, the Eurosystem Collateral Management System (ECMS), that consolidates assets held in both the CSD and ICSD and is fully integrated with Clearstream's triparty collateral management engine.






# Delivering transformational benefits

Total potential efficiencies of the Pan-European CSD Solution in Europe today (EUR million per annum)



▼ TODAY'S OPERATING MODEL	▼ USING A PAN-EUROPEAN CSD	FOR WHOM	POTENTIAL SAVING (EURm Per Annum)	ASSUMPTIONS
<ul style="list-style-type: none"> <li>● <b>Local market funding:</b> Disparate funding (cash and securities) held separately in each local market, meaning credit / funding availability is limited to each market and each market is over-collateralised (i.e. not netted).</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Consolidation of assets in a single location means greater collateral utilisation and hence reduced funding costs.</b></li> <li>● <b>Single cash account easing cash management pressure through netting.</b></li> </ul>	Treasurer & trading front office	€ 13.20M	Assumes 25-30% netting benefit from consolidating cash / collateral at a single venue, with a total collateral value of EUR 1.1bn and 4% annual funding cost
<ul style="list-style-type: none"> <li>● <b>Bank funding:</b> Collateral minimums and buffers managed at market level (i.e. over-provisioning of collateral per market).</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Consolidation of collateral in a single location means elimination of single-market buffers resulting in greater and reduced funding costs.</b></li> </ul>	Treasurer & trading front office	€ 1.76M	Assumes 4% funding buffer held at 3 different custodians; with a total collateral value of EUR 1.1bn; and 4% annual funding cost.
<ul style="list-style-type: none"> <li>● <b>Counterparty risk:</b> Credit exposures are against commercial banks (and hence up to 20% RWA).</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Substituting commercial bank exposures for FMIs (Clearstream Europe and Eurosystem Target 2) and hence 2% RWA.</b></li> </ul>	Treasurer & trading front office	€ 7.92M	Assumes EUR 0.7-1.1bn cash collateral, 18% RWA saving and 4% annual cost of funding.

## INTRODUCING EUR 37M IN EFFICIENCIES: THE PAN-EUROPEAN CSD SOLUTION

TODAY'S ✓ OPERATING MODEL	USING A PAN- ✓ EUROPEAN CSD	FOR WHOM	POTENTIAL SAVING (EURm Per Annum)	ASSUMPTIONS
<ul style="list-style-type: none"> <li>● <b>Intraday liquidity:</b> Supported through uncommitted, undisclosed credit lines (which may or may not be there during times of stress).</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Committed funding through collateralisation.</b></li> </ul>	Treasurer & trading front office	 <b>€ 1.76M</b>	Replacement of NSFR requirements (5%) of credit consumed. Assumes regional settlement volumes of EUR 30bn per day @ 5% funded through credit lines @ 4% net funding cost per annum.
<ul style="list-style-type: none"> <li>● <b>Collateral income:</b> Static collateral today and inability to re-invest (hence lost income).</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Automated connectivity to GC pooling product.</b></li> </ul>	Treasurer & trading front office	<b>Variable</b>	
<ul style="list-style-type: none"> <li>● <b>Disparate connectivity,</b> procedures and reporting in each local market.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Single connectivity, procedures and reporting for all markets.</b></li> </ul>	Network/Operations	 <b>€ 5M</b>	EUR 500k per annum in connectivity costs per sub-custodian (assuming EUR 5m set up, amortised over ten years). Assumes ten markets.
<ul style="list-style-type: none"> <li>● <b>Disparate price lists,</b> invoices and reconciliations in each local market.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Single price list, invoice and hence limited reconciliations.</b></li> </ul>	Network/Operations	 <b>€ 0.02M</b>	Assumes one person-day/month in invoice reconciliations; across 3 custodians in the region.
<ul style="list-style-type: none"> <li>● <b>Complex oversight,</b> due diligence and risk management requirements across multiple sub-custodian providers.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Single counterparty for oversight and due diligence allowing for more in-depth risk management.</b></li> </ul>	Network/Operations	 <b>€ 0.12M</b>	Assumes one network manager dedicated to European markets & 5 onsite visits per year (@EUR 5 per visit inc. organisational resources); hence redirecting resources away from the due diligence and oversight of multiple providers allowing for more in-depth market management.
<ul style="list-style-type: none"> <li>● <b>Costly and slow change management</b> (e.g. T+1) when project includes multiple markets.</li> </ul>	<ul style="list-style-type: none"> <li>● <b>Faster, cheaper change management for multi-market initiatives.</b></li> </ul>	Operations/Change management	 <b>€ 0.60M</b>	Assumes average change project cost of EUR 200k per custodian, across 3 custodians.

✓ TODAY'S OPERATING MODEL	✓ USING A PAN- EUROPEAN CSD	FOR WHOM	POTENTIAL SAVING (EURm Per Annum)	ASSUMPTIONS
● <b>Split settlements</b> by market means different levels of scale discounting per market per provider (i.e. favouring large markets but a disadvantage for smaller markets).	● <b>Consolidation of all volumes in a single venue leading to greater volume discounting at regional level.</b>	Network/ Operations	<b>Variable</b>	Depends strongly on the levels of settlement netting available today (with a local agent's account) vs the future netting impact through consolidation at a single venue.
● <b>Bank exposures in the event of a default:</b> Causing complex costs of unwinding (e.g. Lehmans).	● <b>Removal of one layer of counterparty risk (in the event of a default)</b>	Operations	<b>Variable</b>	

“This is not about a better sub-custody model, this is about regional harmonisation and integration positioning the region for growth and cross-border investment in line with the Savings & Investment Union's goals”

Dirk Loscher, Head of Custody & Investor Solutions,  
Clearstream Securities Services

“The Pan-European CSD Solution offers a transformative opportunity for market participants to significantly reduce costs, simplify operations, and unlock balance sheet efficiencies.”

Tanith Johnson, European Head of Operations, Instinet



# Delivering on the opportunity



## Work in progress

However, this solution is not yet suitable for every profile of organisation. Given its early stage of development, a number of key factors need to be considered within this model:



### Asset servicing

The Pan-European CSD Solution is ideally-suited to agency brokers, retail brokers and firms trading fixed income today. For those trading equities, in particular prime brokers, local market expertise and connectivity may continue to remain a key requirement to cope with bespoke and non-standard practices that still exist in the industry, at least until broader standardisation has been achieved.



### Local processes

Whilst local specificities can also manifest at settlement levels too (e.g. in deferred settlements or registered shares for French securities), these challenges are gradually reducing as more firms evaluate and transition to the Pan-European CSD Solution. Local transpositions of the Settlement Finality Directive (SFD) are equally a cause of inconsistency across Europe. Whilst the Pan-European CSD Solution will help to achieve common rules and procedures for settlement, including entry and irrevocability of transfer orders, only change to legislation will fully resolve.



### Central Bank Cash

With limitations today on the profile of firms allowed to maintain accounts in Target2, Clearstream is actively working to support the launch of Dedicated Cash Accounts at the European Central Bank for a greater range of banks and brokers.



## T2S optimisation

T2S costs, remain artificially high today (given the very low use of cross-border settlement capabilities regionally today). With extensive market development ongoing, these costs look set to reduce as volumes accumulate across the platform. Increasing scalability and volumes on T2S remains a priority, as T2S has to date failed to realise the predicted volumes for the T2S cost recovery period. Factors contributing to lower-than-expected volumes on T2S include settlement volumes which are internalised (i.e. not settled at CSD-level) across the region. However, for T2S to reach its full efficiency potential, certain structural issues must be addressed. One such issue is the way some CSDs establish links, which can introduce unnecessary complexity—such as routing T2S-in securities through T2S-out institutions rather than leveraging T2S-direct connections. Additionally, the application of cross-border surcharges by some CSDs, which was not originally anticipated in the T2S framework, further undermines the idea of a truly European settlement platform. Addressing both the link logic and surcharge practices will be essential to unlocking the full benefits of T2S.



## Securities eligibility

The core goal of T2S was to allow any EU-issued security to be settled through a single CSD relationship. While CSDs must, upon request, make their securities available to other T2S CSDs, not all are currently available for settlement on the platform. This is often due to national restrictions, lack of participant demand, or missing CSD links. Committed to help fulfill the T2S vision, Clearstream is in the process of adding over 30,000 ISINs to the platform.

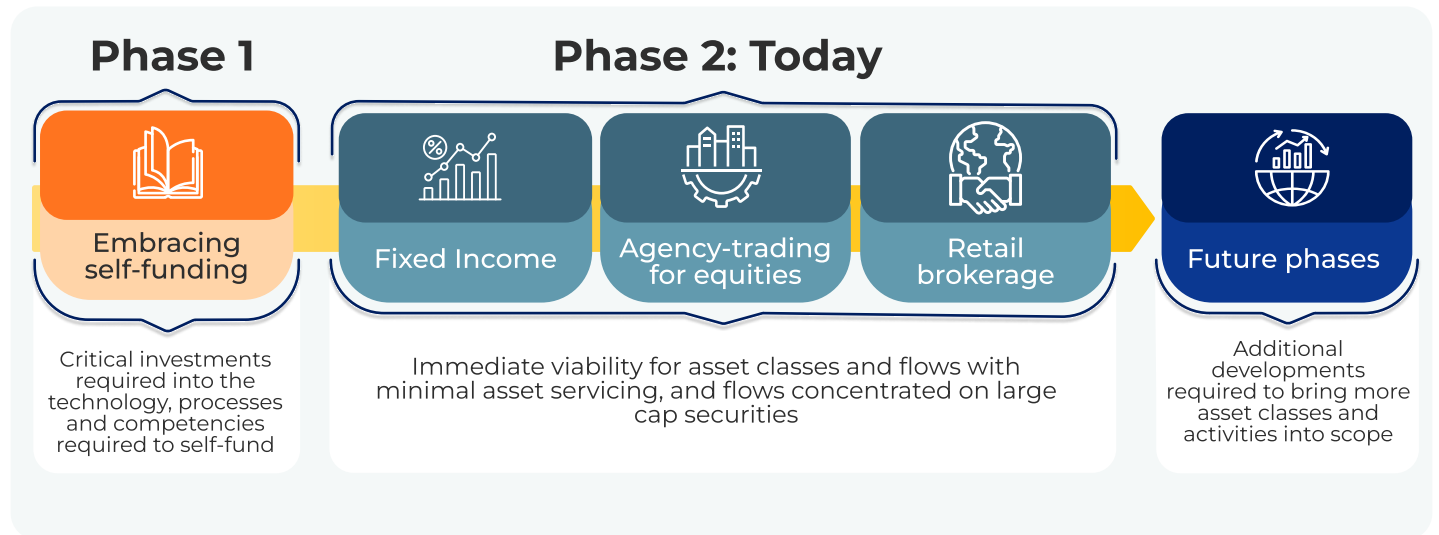


## Netting

Depending on firms' current arrangements, there will be a change in the balance of netting between today (i.e. netting of settlements and risk within local agent accounts per market) and the tomorrow (i.e. the netting of exposures across multiple markets at the Pan-European CSD). This balance and impact is highly dependent on each firm's flows and strategies per market.

# A roadmap for transformation

Whilst valid, the above constraints do not prevent the realisation of significant efficiencies today, using the Pan-European CSD Solution.



## Who? The change team

A funding transformation needs Treasury and trading front office solutions – and so the successful implementation of this model relies on a new and innovative implementation team. This includes the following profiles and roles:



### Treasury and trading leadership is key

Global Head of Fixed Income financing as lead.

Traders managing balance sheet liquidity on a daily basis.

Financing desk aware of the challenges in splitting trades (and the collateral value) across multiple markets.

'Treasury' key partners to financing desks managing balance sheet obligations and cost of funding

## Settlement Operations

Core facilitators of the transition of daily operational processes to the new model and will need to ensure static data and trade flow routing logic is updated to reflect the new settlement model. Equally imperative is the need for all teams central to the clearing and settlement processes to be fully conversant in the flow of instructions and the conventions of European markets. Implementation planning and delivery will need to account for these changes.

## Network Management

A core enabler to success, network management teams will need to revise their due diligence and risk management models becoming fully conversant with the operating model and conventions of T2S in addition to the internal and external CSD links connecting issuers and investors / buyers and sellers - this is not a 'like for like' comparison (versus local agent bank relationships).

## Legal

Importantly, this model creates the least stress on legal agreements – as accounts are most often already open with the Pan-European CSD.

## CCPs

Core facilitators of risk and volume compression - additional volume would flow through existing accounts and processes. Meanwhile, CCPs will have to accept the Pan-European CSD as a settlement location for collateral – a process that is already taking shape across asset classes and locations today.

## CSDs

The CSDs need to continue to drive the evolution of T2S to support the growth of European capital markets and to meet the needs of their participants.

## Outsourced technology providers and service providers

Must enable and facilitate change.

Potential challenges exist in cases where key functions have been outsourced and where the outsourcing provider is new to the self-funding and Pan-European CSD Solution.



# Implementation journey

**“This model relies on core balance sheet management as a foundational layer, shifting the perception that operations are the lever for scale”**

Marcus Austin, Regional Director, UK & Americas,  
Clearstream Securities Services

## Implementation step

## Key notes

### 1. Getting ready to self-fund

**“Self-funding is an exercise in itself. People have to be bold to do this and demand change. This is not incremental.”**

Investments in technology and processes to have full visibility, measurement and control over balance sheet requirements in real time.

This includes mechanisms such as partial release and automated trade shaping, to maximise funding efficiency.

**This phase might include significant amount of discovery including:**



#### Internal

- New processes to be defined and risk managed.
- Existing relationships (and finely balanced commercial relationships) will be disturbed.



#### External

- New points of contact need to be established and new communication flows managed.
- New points of friction need to be identified and managed with counterparties and providers.

### 2. Managing third party dependencies

Market participants typically have many third party relationships including CCPs, cash correspondent banks, vendors and other outsourced providers. Any changes to operating models will need to carefully evaluate whether any changes to these relationships will be required, e.g. contractual and governance arrangements and risk management frameworks.

### 3. System updates

Market participants may have to amend their settlement logic to allow cross border settlement (solving the ‘PSET’ problem).

Implementation step

Key notes


4. Transition

With most firms already running accounts at the Pan-European CSD, the transition is the smallest part of the journey.

Firms can transition simply by moving inventory (and revising their SSIs) based on whatever schedule they prefer. This gives banks and brokers full control over the speed and risks of the transition.

5. New markets

- One market and one activity.
- Gets incrementally easier to add new markets.



**“This can not be a big bang transition. Most firms have the accounts they need open already – and so this is a process of adding one market and one activity at a time”**

Dirk Loscher, Head of Custody & Investor Solutions,  
Clearstream Securities Services

# Conclusion: Benefits realised

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The European post-trade landscape is at a critical inflection point. The forthcoming introduction of accelerated settlement in Europe and the proposed Savings and Investment Union are compelling market participants to re-evaluate their operating models.

As this report underlines, the current, highly intermediated settlement model is no longer sustainable, costing the average Tier 1 broker-dealer an estimated EUR 37 million per annum in inefficiencies. These are not merely operational drains; they are significant, visible, and tangible costs that have long burdened Treasury, Trading and other front office businesses.

**Offering regional access across T2S and ICSDs, the Pan-European CSD Solution is today a live, operational reality. By consolidating liquidity, collateral, and exposures into a single, efficient hub, this model presents a clear path to transforming these challenges into strategic advantages.**



As live, daily volumes continue to accumulate under this model, these benefits are today becoming a reality. In transitioning to this innovative solution, banks and brokers need to ensure maximum visibility and control of their own balance sheets and operations – working as part of a new industry team to realise transformational efficiencies across their organisations.

Importantly, the Pan-European CSD Solution is not suitable for every activity – at least not yet. It is however a fundamental evolution of the European post-trade architecture that positions the region for growth and increased cross-border investment aligning with the goals of the Savings and Investment Union.

For firms committed to realising a leaner balance sheet and a more efficient operating model, the time for transformational change is now.



This report has been prepared by The VX (Canada) Ltd and draws on a range of statistical and qualitative inputs.

Quantitative analysis of cost structures and fees in Europe have been added to interviews of leading market practitioners who are either live or are soon to be live using a centralised platform for European settlements. The information is provided for information purposes only.

All findings contained herein have been compiled from sources believed to be reliable, but, although all reasonable care has been taken to ensure that the information contained herein is not untrue or misleading, we make no representation that it is accurate or complete and it should not be relied upon as such. All opinions and estimates included herein constitute our judgment as at the date of this report and are subject to change without notice.

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