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Clearstream Banking is committed to inform its customers regarding the foreseen changes to its functionality as early as possible. At the same time Clearstream's migration to TARGET2-Securities (T2S) is still some time ahead and therefore the content of this document may need to be updated. Hence, this document represents the state of information available to Clearstream Banking at the publication date. The description may be subject to modifications or enhancements at a later stage of the T2S Implementation project. In case of modifications, Clearstream Banking will provide the respective updates in due time as further releases of functional documentation. Clearstream Banking therefore makes no guarantees, representations or warranties in respect of the glossary and accepts no responsibility or liability as to this document and under no circumstances will be liable for any loss or damage caused by reliance on any statement made in this document.

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# **Foreword**

Many years of hard work have already gone into TARGET2-Securities (T2S), one of the largest infrastructure projects ever launched by the Eurosystem. We are now only nine months away from the first wave of central securities depositories (CSDs) migrating to T2S and the system going live. Six months of Eurosystem Acceptance Testing have passed and the results have allowed the T2S Board to announce that the Eurosystem is ready to start user testing as planned. The user testing, scheduled to start on 1 October 2014, will be performed by all 24 participating CSDs and the central banks that will join T2S.

T2S will bring substantial benefits to the European post-trade industry. It will do so by providing a single pan-European platform for securities settlement in central bank money, thereby creating an integrated market for settlement. Thanks to T2S, European securities markets will be made safer and more efficient. The attention of market participants has initially focused on the efficiency gains that will be achieved from reductions in settlement costs. In addition, T2S will enable banks to achieve back-office and collateral management efficiencies as well as reduce the cost of managing regulatory capital requirements. It will provide new business opportunities in the future competitive post-trade environment.

Recent studies have tried to quantify the collateral and liquidity savings which banks can make through T2S. In September 2013 a study by PricewaterhouseCoopers, commissioned by Clearstream, quantified the improvements to capital and liquidity requirements as leading to savings of EUR 33 billion at market level. A recent analysis conducted by Oliver Wyman, also commissioned by Clearstream, showed that T2S could create millions in savings if banks take action now to optimise their securities and cash supply chain.

On the occasion of this white paper, I would like to emphasise that the T2S endeavour would not have been possible without the continued support of participating CSDs and central banks. Clearstream is clearly amongst the CSDs that have played an important role in the project since its inception. It was one of the first CSDs to sign the Framework Agreement in May 2012, and has actively contributed to the work of the T2S governance groups, such as the CSD Steering Group and the Advisory Group as well as the more technical operational groups. The strong collaboration within the T2S Community, to which different stakeholders have brought their experience and knowledge, has ensured that T2S will be an innovative, state-of-the-art platform, which brings opportunities to all market participants. The early movers will be able to build and offer a comprehensive set of services around T2S, which will ensure that T2S is a success for all market players.

Clearstream will go beyond the T2S markets and intends to extend the range of securities eligible for settlement in T2S. When Clearstream enables the availability via T2S of ICSD-issued securities (such as Eurobonds) and securities issued outside Europe, it will help expand the scope of T2S and ensure that it can be a true single settlement engine in Europe.

We - the T2S Community, which includes you - will see T2S go live when a first wave of CSDs migrates in June 2015. It is now time to think about what new possibilities T2S offers you and to act accordingly, making sure you are ready on time. The success of T2S will be proportionate to the success of CSDs like Clearstream in bringing market participants on board. I look forward to the golive of the T2S platform, a major milestone in the construction of a unique capital market for Europe, and I hope you enjoy reading Clearstream's white paper.

Marc Bayle

Director General Market Infrastructure and Payments European Central Bank

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# 1. Introduction

CBL issues this document to help its customers in the journey to T2S. The current version only includes a general introduction and CBL's settlement services in a post T2S world; other chapters will follow in the next months.

This document specifically looks at CBL's service offering while CBF provides its customers with a separate description of the changes and new features T2S will bring. The documentation is available at the following link: <a href="https://www.clearstream.com/clearstream-en/strategy-and-initiatives/target2-securities--1-/paving-the-way-to-t2s-for-cbf-customers">https://www.clearstream.com/clearstream-en/strategy-and-initiatives/target2-securities--1-/paving-the-way-to-t2s-for-cbf-customers</a>.

# 1.1 Background on TARGET-2 Securities (T2S)

Financial market infrastructures in Europe were originally meant to serve the requirements of national financial markets. Today, despite the introduction of the Euro, the common currency for 18 (soon 19) countries in the EU, the provision of settlement services remains fragmented along national lines. There have been endeavours to improve this situation, such as mergers between European Central Securities Depositories (CSDs). These efforts however have not led to a considerable reduction of the existing fragmentation.

As a result, the complexity, costs and risks of cross-border securities transactions within the European post-trade environment remain high. Currently, investors have to pay around ten times more for cross-border transactions within the single European market than they do for domestic transactions. Moreover, these cross-border transactions are far more expensive than for example in the United States, acting as a single market, where trades are settled centrally in the Depository Trust & Clearing Corporation (DTCC) and the Federal Reserve System. The high cost of cross-border transactions is caused by lack of harmonisation across countries on a legal, fiscal and technical level. To overcome this, financial institutions either have to establish links to all parties and countries or they must resort to the use of domestic custodians in the countries concerned. The 2001 Giovaninni report<sup>1</sup> showed that a typical cross-border equity transaction would require the involvement of as many as 11 intermediaries (compared with only 5 for an equivalent domestic transaction) and a minimum of 14 instructions between parties. This results in a higher cost and a greater level of risk.

The obstacles identified in the cross-border provision of post-trading services conflict with the purpose of a single and competitive European market for financial services. The Lisbon strategy<sup>2</sup> recognised the need to overcome these obstacles and several important initiatives have been undertaken by the European Union since then. The differences and inconsistencies in the trading area are being addressed, in particular by the Markets in Financial Instruments Directive<sup>3</sup> (MiFID). While MiFID I required traditional stock exchanges and multilateral trading facilities to publish certain information about trades in listed shares, MiFID II has introduced organised trading facilities (OTFs) to the MiFID framework. In addition, MiFID II will impose new safeguards for algorithmic and high-frequency trading activity and reinforced powers of supervision of derivatives markets.

In the post-trade sector, the "Code of Conduct" was initiated in order to achieve progress, and to stimulate fair and open competition. The Code of Conduct included the granting of access rights to other service providers, allowing any central clearing counterparty (CCP) or CSD to clear and settle

<sup>1.</sup> Please refer to the European Commission website at: http://ec.europa.eu/internal\_market/financial-markets/docs/clearing/second\_giovannini\_report\_en.pdf

<sup>2.</sup> Please refer to the European Parliament website at: http://www.europarl.europa.eu/document/activities/cont/201107/20110718ATT24270/20110718ATT24270EN.pdf

<sup>3.</sup> Please refer to the European Commission website at: http://ec.europa.eu/internal\_market/securities/isd/mifid/index\_en.htm

<sup>4.</sup> Please refer to the European Commission website at: http://ec.europa.eu/internal\_market/financial-markets/clearing/communication/index\_en.htm#maincontentSec3 (last checked 24 September 2014)

trades on any stock exchange, regardless of whether they were located in the same country as the stock exchange or not. It also sought to ensure that customers are offered appropriate and transparent prices for unbundled services in order to put an end to cross-subsidies and the locking-in of customers.

Specifically in relation to CSDs, the EU formulated the CSD Regulation<sup>1</sup>, which is focused on harmonising the legal framework, structure and services of European CSDs. It also aims to introduce overall post-trade market discipline and settlement harmonisation - all of this to increase the interoperability between European CSDs by establishing common standards. In addition, the Securities Law Directive<sup>2</sup> (SLD) defines some of the duties of CSDs, as well as addressing some harmonisation issues such as the obligatory dematerialisation of most securities.

However, in order to benefit from the resulting harmonisation and to support competition between service providers in the securities industry, it must be technically possible for market participants to be able to access securities located in any EU country. It is here that T2S comes to the fore, providing the missing technical piece of the post-trade industry puzzle. T2S will foster the required transformation of intermediation between issuers and investors by stimulating the development by financial market participants of a competitive and efficient European market.

#### 1.2 What is T2S?

#### 1.2.1 General information

T2S will transform Europe's financial markets. Owned by the Eurosystem, it will provide a single, a state-of-the-art IT platform for harmonised settlement in central bank money on a real-time gross basis in a variety of currencies<sup>3</sup> for the majority of traded securities circulating in Europe, be it on Stock Exchanges or on over-the-counter (OTC) markets. It will therefore be a major step forward towards the creation of a single market in securities, addressing some of the Giovannini barriers to cross-border settlement, as well as acting as a catalyst for further harmonisation in post-trading services. T2S will create the framework to make cross-border settlement identical - in terms of cost, risk and technical processing - to domestic settlement.

The T2S platform is built and will be operated by the following four central banks (4CBs): Deutsche Bundesbank (Germany), Banque de France (France), Banco de España (Spain) and Banca d'Italia (Italy). At the end of March 2014, development was successfully completed and the Eurosystem Acceptance Test (EAT) was initiated. This will be followed by a test involving all market participants, including CSDs and national central banks (NCBs) in October 2014.

T2S will be developed and operated in conjunction with the Eurosystem's TARGET2 single platform for cash payments. The close proximity between T2S and TARGET2 will provide synergies by allowing market participants to optimise their collateral and liquidity management.

T2S will ease delivery versus payments (DVP) transactions across Europe. This eliminates the risk for market participants that their securities or cash could be transferred to a counterparty which then defaults before fulfilling its corresponding obligations. The use of "central bank money" - such that the cash is transferred from one counterparty's cash account at a central bank to another counterparty's cash account also at a central bank - eliminates the cash settlement risk.

T2S is not limited to the Euro area. The large number of non-Euro area CSDs that signed a Memorandum of Understanding with the Eurosystem in July 2009 shows the strong interest of the securities industry in extending T2S beyond the Euro area. Reflecting this, several non-Euro area

Please refer to the Eur-Lex website at:http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0909&from=EN

<sup>2.</sup> Please refer to the European Commission website at: http://ec.europa.eu/internal\_market/financial-markets/securities-law/index\_en.htm

<sup>3.</sup> Please note to begin with real-time settlement will be available in EUR, with other currencies in scope to follow after the launch of T2S.

central banks have already confirmed their interest in taking their currency into T2S (Danish Kroner and Romanian Leu), and other central banks are considering whether to do so.

The go-live date for T2S is set for June 2015, starting with wave 1 CSDs. Wave 4 with the remaining 8 CSDs is planned to migrate in February 2017 (see "Migration waves and timeline" on page 4).

It is worthwhile noting that CSDs will remain legally responsible for securities settlement but for technical reasons will outsource the settlement infrastructure (positions & accounting) to T2S.

#### T2S Service scope

- Provide core settlement for all securities denominated in Euro and foreign currency if supported by the NCB
- Lifecycle management (incl. validations) and matching
- Instruction interface
- instruct settlement transactions
- query the settlement transaction status
- · maintain settlement instructions
- DCP has to be authorised by the respective CSD
- Bookings and master of the securities
- CSD authorisation interface set up, change and maintain static data of
  - participants
  - securities
  - rules (e.g. subscription services)
- Real-time gross settlement (RTGS) model is foreseen

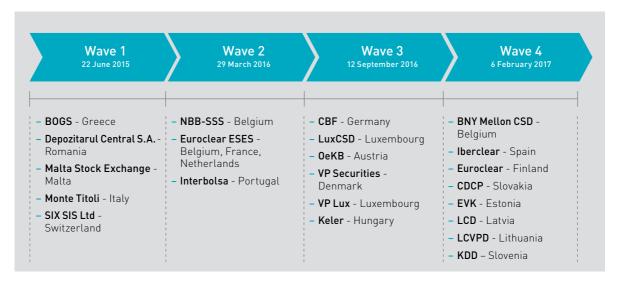
#### Services remaining at CSDs

- Settlement functions due to special national requirements and all non-settlement activity;
  - notary function
  - asset servicing
  - primary markets activities
  - collateral management
  - securities lending services
- Legally responsible for fulfilling obligations under their national laws and regulations
- Admission of securities and participants to settlement including
  - maintenance of the securities accounts
  - provision of static user and securities data
- Involved as the primary place of deposit
- Participating CSDs can offer settlement services for all securities
- CSD will require relations with all relevant CSDs acting as the primary place of deposit for those securities
- Provisioning and invoicing of T2S services

Clearstream's German and Luxembourg CSDs have been supporting T2S since the Eurosystem started to evaluate the new settlement platform in June 2006. Clearstream and LuxCSD were among the first to sign the T2S Framework Agreement in May 2012 and there are now 24 CSDs across Europe which have committed to joining the initiative. For further details on these CSDs please refer to the following ECB web page: <a href="http://www.ecb.europa.eu/paym/t2s/stakeholders/csd/html/">http://www.ecb.europa.eu/paym/t2s/stakeholders/csd/html/</a> index.en.html

## 1.2.2 Migration waves and timeline

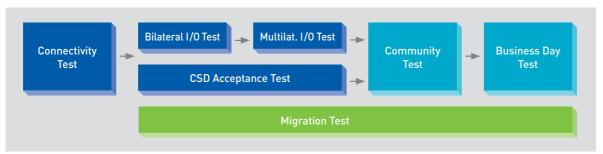
The transition to T2S will take place in a series of waves. The Governing Council of the ECB approved both the schedule and the composition of these T2S migration waves in spring 2013. They will take place as follows:



#### 1.2.3 T2S development and testing approach

The development phase started in April 2009 and the platform was delivered in March 2014. The EAT started in March and is scheduled to finish by end September 2014.

In September 2012, the Eurosystem established the User Testing Sub-Group, where the ECB, the NCBs, CSDs, the 4CBs and CSD participants (as observers) share their knowledge and expertise on this matter. Clearstream and LuxCSD are active members of the Sub-Group and are present in the workshops. Since Clearstream has the most extensive CSD network and outstanding experience in the area of bilateral testing, our recommendations were valued in the workshops. Tests have been split into a variety of stages, explained below:



To prepare the testing, CSDs and NCBs must first establish their connectivity to T2S. The connectivity for Directly Connected Participants (DCPs) must be set up at a later point in time, but at the latest before the Community Test. In the bilateral and multilateral interoperability (I/O) tests, CSDs and NCBs test their interaction with T2S and also cross-border settlement links. Before including customers in the testing, each CSD will carry out the CSD Acceptance Test to ensure that the T2S platform meets user requirements.

#### Test stages to be conducted by CSDs and NCBs

- 1. Connectivity Test
  - CSDs and NCBs establish T2S connectivity
- 2. Bilateral Interoperability (I/O) Test
  - CSDs and NCBs test their interaction with T2S by using "Dummy entities"
- 3. Multilateral Interoperability (I/O) Test
  - One main focus is end-to-end testing of cross-border settlement links with involved CSDs
- 4. CSD Acceptance Test
  - Main objective is to ensure that the T2S platform meets the user requirements
  - Focus will be on functional testing, but also non-functional testing is foreseen

## Test stages with participation of CSD customers

Most important for CSD customers are the "Community Test" and "Business Day Test" with the ultimate aim of verifying the correct functioning of T2S procedures under production-like conditions. In particular, the "Business Day Test" stage is planned to simulate a daily schedule as in production. Clearstream will provide it's CSD customers with a dedicated Customer Simulation environment which is connected to the T2S platform for the "Community Test" and "Business Day Test" stages.

- 1. Connectivity Test
  - Connectivity for DCPs will be established at the latest prior to Community Testing
- 2. Community and Business Day Test
  - Focus is to verify the correct functioning of T2S under production-like conditions
  - CSDs and NCBs test with their whole communities
  - DCPs will conduct specific tests to achieve the
    - "DCP Authorisation" required by the Eurosystem and
    - "DCP Certification" requested by the respective CSD
  - Business Day testing is planned to run with a production-like daily schedule
- 3. Migration Test
  - Migration Testing for CSDs and NCBs is planned to be executed on a dedicated environment
  - For all customers (DCPs and ICPs) Migration Rehearsals are planned at the start of Community and /or Business Day Testing

According to the latest ECB test planning for wave 3, Clearstream's CSD customers will have the opportunity to execute their tests within approximately seven months from February 2016 onwards.

## 1.3 How to access T2S?

The Eurosystem/ECB provides two types of connection to access T2S:

- directly to T2S (authorised by at least one CSD) as a "DCP" (Directly Connected Participant) or
- indirectly to T2S via at least one CSD, i.e. as an "ICP" (Indirectly Connected Participant)

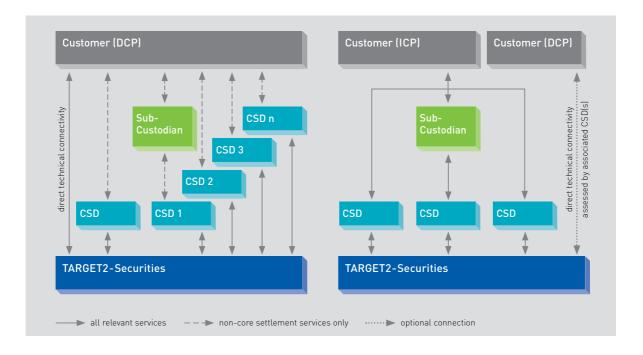
Customers acting in DCP mode can send their settlement instructions directly to T2S for one or more CSD accounts. A shared value added network (VAN) is offered via either SWIFT or SIA-Colt. Clearstream has selected SWIFT.

T2S will only support ISO 20022 message standards which are not yet widely used by financial institutions. Customers acting in DCP mode have to establish the new technical infrastructure with ISO 20022.

From a contractual point of view, the respective CSD remains the responsible party for all settlement activities on T2S. In particular the CSDs grant the necessary authorisation to act as DCP participant on T2S. The ECB will grant permission for the technical connectivity. A DCP will send all instructions to T2S directly; the CSD may opt to receive relevant copies to process the instructions within their systems. This is an optional feature.

In addition, DCP connectivity only provides access to core settlement services. It is therefore recommended that all CSD customers acting as DCPs still maintain a direct connection to at least one CSD in ICP mode. This particularly applies if customers acting as DCPs want to use the value-added services of the respective CSD, such as collateral management services, which are not supported by T2S.

The two figures below show the general options for CSD customers who connect as DCPs to T2S. The left one shows the option where a DCP can instruct several CSD accounts on T2S via one technical channel for the core T2S settlement services and directly instructs the CSD for non-core settlement services. The one on the right includes the option where the CSD customer decides to be indirectly connected to a number of CSDs and uses one CSD for core settlement activities.



As an alternative to any form of direct connection, a third possibility open to customers is to connect as an ICP with several CSDs.

If customers wish to simultaneously maintain links with multiple CSDs or custodians and T2S, different account setup procedures have to be considered and customers would also need to follow the different testing and migration scenarios of the various CSDs and T2S during the migration waves.

As of 15 October 2013, 31 financial institutions had announced their non-binding intention to directly connect to the T2S platform as a DCP. Financial institutions that have missed this deadline can only request to become a DCP after migration wave 4. Before connecting, each DCP needs to pass DCP Certification and Authorisation tests during the Community and Business Day testing stages of the T2S User Testing.

#### **DCP Certification**

DCP Certification is performed by the Eurosystem and is an enhanced technical test which has to be passed only once by a DCP. This certification will remain valid for all markets the participant will directly connect to. Six months before the start of the community testing stage for migration wave 1, the Eurosystem will provide the CSDs with a set of test cases for DCP Certification.

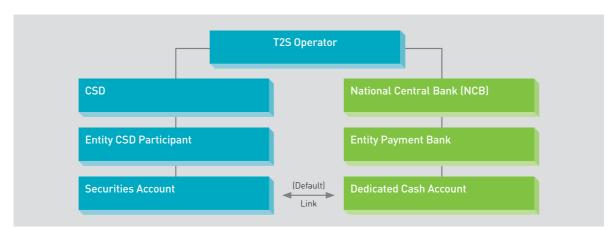
#### **DCP Authorisation**

As mentioned above, DCPs do not have a legal contractual relationship with the Eurosystem, but are bound by the contracts they have with their respective CSDs and NCBs. Every CSD and NCB may have different conditions for authorising a participant to become a DCP. CSDs are responsible for the definition of the test scenarios in accordance with market and legal requirements.

DCP Authorisation tests will cover specific business processes such as domestic settlement, cross-border market scenarios with In-CSDs and Out-CSDs and further market-specific scenarios. To make it easier for market participants to become a DCP in different markets, CSDs aim to standardise their authorisation procedures as much as possible while at the same time respecting their local market and legal requirements.

# 1.4 How to operate on T2S?

T2S supports a "multi-party concept" consisting of the T2S operator itself, the NCBs, the participating CSDs and financial institutions/banks.



- A Dedicated Cash Account (DCA) with a NCB is necessary to ensure the cash settlement in T2S-eligible currencies for DVP. The funding of these DCAs will be done from a RTGS account in TARGET2.
- Each securities account (SAC) of a CSD participant has to be linked to at least one DCA to enable DVP settlement. The DCA number will be provided by the respective NCB. The customer can be the holder of the DCA, or it can choose another bank to act as payment bank holding a DCA.
- Several DCAs can be linked to one SAC. If more than one DCA is assigned to one SAC, then one will be designated as a 'default' DCA. This means that, if no specific DCA is mentioned, e.g. within a DVP instruction, then this 'default' DCA will be used for cash settlement.

## T2S uses BIC Branch Codes to identify SACs

On T2S each CSD participant is identified by the BIC of its CSD plus its own BIC. A financial institution having a relationship with different CSDs and NCBs will be defined several times as a party. For example, a bank having a relationship with two different CSDs and one NCB will be recognised as three parties in T2S (i.e. at least as a participant for each CSD and as a payment bank for the NCB). BIC Branch Codes (BIC11) can already be applied for now by using a form on the SWIFT website.

Counterparties on T2S need to be addressed by their CSD BIC11 and counterparty BIC11. From a T2S perspective, a single BIC11 can relate to many different parties, i.e. BankBIC11 at CSD1, BankBIC11 at CSD2, BankBIC11 at NCB3. BIC in T2S identify the T2S SACs. There will be no difference between domestic and cross-border counterparties in T2S.

Clearstream Banking S.A., Luxembourg, will open an omnibus account in Clearstream Banking AG, Germany, who has a direct CSD account with T2S. Each CSD participant is identified by the BIC of its CSD plus its own BIC: CBL "CEDELULL" will be reflected as DAKVDEFFCEDELULL.

# 1.5 OneClearstream's value proposition

T2S is revolutionising the European post-trade landscape by creating a single settlement environment that will bring domestic market efficiency to the cross-border securities settlement space.

Such a fundamental change to the securities settlement business meant that Clearstream, along with every other European market participant, has had to undertake a comprehensive strategic review to ensure that we are consistently working to maximise opportunities for our customers in the post-T2S world. Our industry was and still is taking on major investment projects to ensure compliance with an unprecedented wave of regulation. T2S clearly brings additional challenges at a time when we are already hit hard by the financial crisis and its continuing aftershocks.

Clearstream functions as both a CSD, in Germany and Luxembourg, and as an ICSD serving the international issuer and investor community from its base in Luxembourg and ten other locations around the world. Clearstream's German CSD is Europe's strongest domestic CSD, contributing the highest market settlement volume to T2S (40%). Clearstream also enjoys an advantageous situation as part of the Deutsche Börse Group, which means it is uniquely positioned to leverage the potential of T2S to the advantage of its customers:

Clearstream's strategy is to give our customers the opportunity to access the widest range of settlement options (both domestic and international) and funding options (both central bank and commercial bank money), with all holdings able to take advantage of enhanced asset servicing and collateral management services. Clearstream's customers will be able to access all ICSD and CSD counterparties from both ICSD and CSD accounts. Indeed, an important benefit for Clearstream customers will be that we will treat European domestic and international assets as a single liquidity pool. Collateral will be able to be seamlessly transferred at any time between CSD (T2S) accounts and ICSD accounts.

- Clearstream will offer integrated ICSD and CSD services with a harmonised connectivity through a single window and at a competitive price.
- Clearstream's German CSD is Europe's strongest domestic CSD, contributing the highest market settlement volume to T2S [40%]
- Customers can pool their liquidity and thereby improve the fungibility of assets while taking advantage of Clearstream's superior collateral management capabilities to decrease the cost of collateral and liquidity management.
- Clearstream will provide for all securities held close-to-market asset servicing through our local agent bank partners, allowing an access to 54 markets plus the international market.
- Clearstream delivers easy, integrated access to services delivered by its Deutsche Börse Group sister companies on the cash and derivative markets.

In addition, Clearstream continues to invest in technical developments and better processes to improve the Bridge with Euroclear.

The following sections look in more detail at some of the value-added services Clearstream will offer to its customers in preparation of and with T2S going live:

## 1.5.1 Creating best value through asset servicing

While T2S will take care of the settlement activity, our customers still need to be able to access top quality asset servicing solutions - and the scope of such services needs to be expanded in line with the expected increase in volumes and complexity.

Clearstream has an attractive solution for a world with T2S: the "smart partnering" approach we adopt in our work with expert local agent banks which ensures that our customers benefit from the very best asset servicing available, the advantage of close market proximity, expert knowledge and, of course, the requisite local specialist experience.

#### 1.5.2 Collateral management as a global priority

Clearstream took the strategic decision some years ago to invest significantly in its Global Liquidity Hub which has now developed into a unique value proposition combining collateral management, securities lending and repo services with near-time interoperability across global markets. Clearstream is therefore very well placed to ensure its customers will be able to benefit from the opportunities presented by T2S to consolidate their domestic securities and their international securities in one accessible liquidity pool.

## The Global Liquidity Hub

Clearstream has ongoing commitment to developing the Global Liquidity Hub, making use of its open architecture to continue to expand the scope of its multiple collateral products and services, as well as its reach across multiple settlement locations. Clearstream's position within the Deutsche Börse Group enables Global Liquidity Hub customers to benefit from access to <a href="GC Pooling">GC Pooling</a> through Eurex Repo and Eurex Clearing in addition to <a href="GC through LCH.Clearnet">GC through LCH.Clearnet</a>.

Its solutions, available to all participants, whether directly through Clearstream or through one of its partners using Liquidity Hub GO access, include a comprehensive and flexible suite of products in central bank pledge, triparty collateral management (including repo) and securities lending. The Global Liquidity Hub has a wide range of counterparties from central banks and CCPs to banks, brokers, corporates, asset managers, insurance companies and other non-financial companies. Cash, fixed income, equities, some funds and gold are all eligible in the Global Liquidity Hub which has more than 550 participants.

Clearstream has established four separate Liquidity Hub partnership streams for different types of market participants. These strategic partnerships greatly extend the reach of the Global Liquidity Hub and enable the buyside (for example corporates, pension funds and asset managers) as well as customers of market infrastructures, agent banks and electronic platforms to benefit from Clearstream's collateral management solution.

- Liquidity Hub GO (Global Outsourcing) provides domestic market infrastructures such as CSDs with an efficient way to develop customised collateral management services while meeting a regulatory requirement that the underlying assets must remain in the local market.
- Liquidity Hub Collect enables counterparties on electronic trading platforms to collateralise their trades via the triparty repo services under the Global Liquidity Hub. Traders and back offices benefit from greater security and lower risk, thanks to fully automated straight-through processing.
- Liquidity Hub Connect allows customers of agent banks to benefit from Clearstream's award-winning collateral management services and to use their assets held at the agent bank for triparty transactions in Clearstream's Global Liquidity Hub.
- Liquidity Hub Select bundles the Global Liquidity Hub services aimed at the buyside and corporates who are looking for secure alternatives to the money market. Buyside

treasuries can rely on Clearstream's full post-trade support for all their triparty repo and OTC derivative transactions, be they cleared or uncleared.

By pooling and optimising collateral from all industry layers without forcing asset transfers out of well-established and proven asset locations, the Global Liquidity Hub provides customers with a strong value proposition. The additional option to mobilise this optimised collateral pool to cover exposures at clearing houses, central banks, triparty repos or any other type of exposures on an automated basis creates further substantial value for the users of this unique service model.

#### 1.5.3 Benefits for issuers

Clearstream views T2S as providing a number of opportunities throughout the transaction lifecycle for all stakeholders. For issuers, a major advantage will be the ability to reduce their overall funding costs and broaden their investor reach. National CSDs are very focused on supporting domestic issuers who are targeting mainly local investors. The T2S single settlement platform will have a wider scope and will allow issuers to enjoy pan-European distribution. This means that a CSD could, if it chooses to, significantly expand its issuance and distribution offering, extending it to all issuers wishing to reach investors anywhere across Europe from a single primary issuance location.

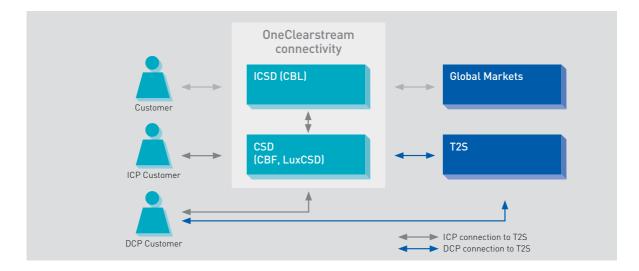
Of course, Clearstream already does this today through its ICSD franchise - and to a certain extent also through its CSD offering. Issuers from around the globe today already use our issuance services in more than 100 denomination currencies, 43 settlement currencies and distribution channels to more than 50 major CSDs worldwide. Our experts can handle governing laws from over 60 jurisdictions.

After the launch of T2S, Clearstream will be in a position to leverage its global issuance and distribution expertise to enhance its CSD services even further. Furthermore, thanks to the single seamless integration of Clearstream's CSD and ICSD businesses, the issuer will also be able to distribute the same global issue to non-European investors world-wide, that is beyond the T2S area. Of course, the investors themselves will be able to keep their preferred custody set-up following implementation of T2S, irrespective of whom the issuer is and where the primary distribution has actually taken place.

Studies have highlighted that access to global issuance is a key factor in reducing the overall funding cost for issuers. Clearstream approaches T2S as an opportunity to leverage its Global Issuer Hub, underpinned by best-of-class issuance and distribution services that bring tangible benefits to both the issuer and investor communities.

## 1.5.4 Single customer connectivity

Clearstream's connectivity solution will allow all customers to gain access to the full range of T2S services - whether via Clearstream's CSDs to T2S or via its ICSD, and in both central bank money and commercial bank money. Clearstream will also ensure that its customers have a comprehensive overview of all their positions all through a single connectivity point. This is a major part of our T2S strategy and involves fully integrating the various connectivity systems currently in place throughout Clearstream. The result will be a better working experience for our customers and will also be key in facilitating the consolidation of all assets into a single pool for more efficient use. The below graph outlines the final set up.



# 2. CBL settlement in a post-T2S environment

## 2.1 Introduction

Clearstream will offer a wide range of settlement services, both for T2S-in and T2S-out markets. It will do this by combining its CSD functions (Clearstream Banking AG, CBF) in Germany with its own ICSD functions (Clearstream Banking S.A., CBL) in Luxembourg.

CBL positions for T2S-in markets will be sub-deposited with CBF, allowing CBL customers to access T2S-in markets. This chapter will first lay out the basics of securities eligibility and settlement connectivity and processing for CBL customers in a post-T2S environment, before moving on to examine some of the additional settlement functionalities that will be available to ICSD customers.

# 2.2 CBL securities eligibility

#### 2.2.1 Via Clearstream ICSD

Clearstream provides access to 54 domestic markets worldwide, along with the international market and the global emissions market. Beyond this access, thanks to the Bridge arrangement with Euroclear described in further detail in sections  $\underline{2.7.1}$  and  $\underline{2.7.3}$ , customers will also have access to all counterparties accessible via Euroclear.

A full list of eligible securities is available on our website.

The markets served are indicated in the table below:

T2S-in Markets		Global Markets			
<ul> <li>Austria</li> <li>Belgium</li> <li>Denmark</li> <li>Estonia</li> <li>Finland</li> <li>France</li> <li>Germany</li> <li>Greece</li> <li>Hungary¹</li> <li>Italy</li> <li>Latvia</li> </ul>	<ul> <li>Lithuania</li> <li>Luxembourg</li> <li>Malta</li> <li>Netherlands</li> <li>Portugal</li> <li>Romania¹</li> <li>Slovak Republic</li> <li>Slovenia</li> <li>Spain</li> <li>Switzerland¹</li> </ul>	<ul> <li>Argentina</li> <li>Australia</li> <li>Brazil</li> <li>Bulgaria</li> <li>Canada</li> <li>China</li> <li>Croatia</li> <li>Cyprus</li> <li>Czech Republic</li> <li>Dubai²</li> <li>Hong Kong</li> <li>Hungary³</li> <li>Iceland</li> </ul>	<ul> <li>Indonesia</li> <li>Ireland</li> <li>Israel</li> <li>Japan</li> <li>Malaysia</li> <li>Mexico</li> <li>New Zealand</li> <li>Norway</li> <li>Philippines</li> <li>Poland</li> <li>Romania<sup>4</sup></li> <li>Russia</li> <li>Singapore</li> </ul>	- South Africa - South Korea - Sweden - Switzerland <sup>5</sup> - Taiwan - Thailand - Turkey - United Kingdom - USA - Uruguay - Eurobond market - Global emissions market	

 $<sup>^{1}</sup>$  In Euro,  $^{2}$  NASDAQ Dubai,  $^{3}$  In HUF,  $^{4}$  In RON,  $^{5}$  In CHF.

## 2.2.2 T2S eligible securities

Clearstream will offer settlement services on all eligible securities issued within T2S, across all asset classes and with all T2S eligible currencies. These will include:

- Securities deposited with T2S In-CSDs<sup>1</sup>
- Securities deposited with T2S Out-CSDs to which Clearstream has established a link

Furthermore, a greater level of interoperability between all elements of Clearstream will allow us to make securities across all markets eligible and accessible via any of the group entities. We will therefore be able to make all T2S eligible international securities available for settlement in EUR central bank money within T2S.

<sup>1.</sup> NB: Not all In-CSDs will be eligible until wave 3. Please refer "Migration waves and timeline".

# 2.3 Settlement connectivity

CBL's settlement services will be delivered via the Creation Platform and the connectivity channels for input and reporting are available via CreationOnline (U2A), Creation via SWIFT (A2A) and CreationDirect (A2A). Clearstream has also set up a new overarching U2A connectivity hub, the ClearstreamXact portal, which will provide streamlined user access to our full range of services from a single entry point. This will include market driven adaptations arising from the migration to the T2S environment.

All connectivity channels will provide end-to-end processing functionalities, bringing together settlement, custody and reporting, in a secure and straight-through environment. This new portal will run in parallel to existing Creation U2A options, and customers will be able to choose which they wish to use.

Customers choosing to transact with T2S counterparts will continue to be able to send their messages to Clearstream in ISO 15022 format. Clearstream will convert these messages to ISO 20022 when interacting with T2S, and reconvert ISO 20022 replies to ISO 15022 for return messages and for reporting to the customer. In other words, customers sending messages in ISO 15022 format will have access to the entire spectrum of T2S settlement without having to implement changes to their messaging standards themselves.

More information on specifics regarding connectivity in general will be provided in a separate chapter.

# 2.4 Quality of money

Clearstream's market infrastructure recognises two specific money qualities in settlement flows: commercial bank money (CoBM) and central bank money (CeBM).

CBL, as an ICSD infrastructure, will offer settlement services in CoBM for customers transacting with T2S markets. Settlement types can be defined in three different modes. Which mode is used will be based on where Clearstream's customer's counterparty holds an account.

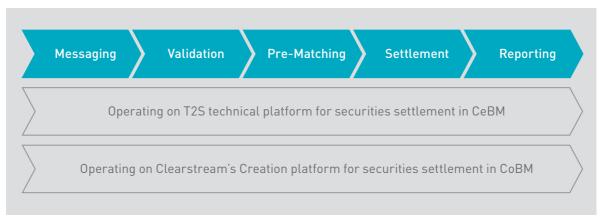
- Internal settlement (counterparty is a Clearstream customer)
- External settlement (counterparty is a domestic customer either of a T2S-in or a T2S-out market)
- Bridge settlement (counterparty is a Euroclear customer)

For settlement with counterparties in T2S-in markets, where settlement of securities takes place in the T2S infrastructure and requires CeBM, CBL will provide the money quality conversion.

# 2.5 Settlement procedures

Clearstream plans to accept customer instructions as today. In general, instructions are forwarded to T2S in real time during the T2S opening hours or at the beginning of the following T2S opening. At times when T2S is not in operation (for example during the T2S maintenance period), instructions are queued within Clearstream.

The life cycle of eligible settlement instructions within the CBL system follows a standardised process. The diagram below outlines this life cycle in general terms.



Below we outline this process in more detail, looking in turn at matching, provisioning, settlement timing, reporting, in sections  $\underline{2.6}$ ,  $\underline{2.7}$  and  $\underline{2.8}$ . Instruction cancellation and recycling are examined in sections  $\underline{2.9}$  and  $\underline{2.10}$ , before we turn to an overview of additional settlement functionalities in a post-T2S environment in section 2.11.

## 2.5.1 CBL settlement procedures in T2S-in markets

For transactions with customers in T2S-in markets, Clearstream will ensure compliance with T2S features that have been introduced in such markets. Such features can be summarised as follows:

- Place of settlement identification
- Identification of parties through their BIC11
- T2S Securities Account Number structure
- T2S matching rules
- Allegements
- Linked instructions
- Hold and release
- New daily schedule/holiday calendar
- Partial settlement
- T2S recycling rules
- New cash tolerance
- Prioritisation
- Bilateral cancellation
- Instruction types
- Market claims
- Transformations

# 2. CBL settlement in a post-T2S environment

Where applicable, in this chapter a distinction is drawn between settlement in T2S-out markets and settlement in T2S-in markets in order that differences may be compared in general terms. It should however be noted that market specific features may apply in both cases. In order to ensure that our customers are well informed about such specifics, following a market's migration to T2S, we will provide more information on the impact of these changes to settlement instructions specifically related to that market. This will be done via the individual market guides we provide on our website. Such guides are also provided for T2S-out markets.

# 2.6 Matching

The matching process compares settlement instructions of deliverer and receiver of securities to ensure that both parties agree on settlement terms.

#### 2.6.1 ICSD matching requirements

ICSD matching requirements apply on internal and Bridge instructions. For external domestic transactions with T2S-in markets, the T2S matching requirements explained in section  $\underline{2.6.2}$  will apply. In T2S-out markets, external domestic instructions will match in accordance with local market practice, as laid out in our market guides provided on our website.

#### First layer matching

First layer matching is applicable to all CoBM settlements. It examines the details of the trade and the settlement location of the two parties or their agents. Matching fields are:

- Transaction type
- Account number to which delivery of securities/payment of funds is to be made
- Requested settlement date
- Security code
- Nominal amount
- ISO currency code and countervalue (for against payment transactions)

Finally, there are three trade information first layer matching fields that are only mandatory for external settlements and settlements in certain domestic markets<sup>1</sup>.

- Trade date
- Trade price
- Special instructions code (indicating delivery status)

If one or both of the trade date or trade price fields are given by both counterparties, a comparison is made in the matching process. If the information given for the same field by both counterparties differs, the transaction is reported as unmatched. In addition, for transactions with Bridge counterparties only, if the trade price is input by either counterparty, the trade date must also be supplied and must match; otherwise, the transaction will be reported as unmatched.

## First layer matching tolerance

Tolerance levels are applied to the matching of the ISO currency code and countervalue fields as well as the trade price field.

For the ISO currency code and countervalue fields, the tolerance for this value is dependent on whether the transaction is a Clearstream internal transaction, a Bridge transaction or an external transaction.

<sup>1.</sup> Please refer to the market guides on our website for more information about matching requirements in individual domestic markets.

# 2. CBL settlement in a post-T2S environment

If the transaction is an internal or Bridge transaction, a maximum discrepancy of USD 25 (or currency equivalent) between the countervalues indicated by buyer and seller is tolerated in the settlement process.

In the case of external against payment instructions, the maximum discrepancy tolerated varies in accordance with market practice and the conditions of the domestic link. Details of the tolerance level are given via our domestic market guides available on our website.

The trade price field must match up to the sixth decimal place; otherwise the instruction will remain unmatched.

#### Second layer participant matching

Second layer participant matching services enable customers to achieve matching on the sub-account or customer account of the counterparty (second layer market participant) on whose behalf settlement is performed, thus minimising cross-matching and reconciliation problems.

This service applies to internal Clearstream transactions exclusively. Domestic market instructions can be optionally matched on the second level in those domestic markets where second layer matching is applied. In this instance, the rules of the domestic market prevail.

Fields used for second layer matching are:

- Deliverer's custodian information or seller
- Receiver's custodian or buyer

Similar to the optional matching fields described in T2S matching requirements (section  $\underline{2.6.2}$ ), second layer matching will only be performed if the second layer fields are provided by both parties. In case the information is present in both customer instructions but it does not match, then the instructions are unmatched and cannot be released for settlement.

#### 2.6.2 T2S matching requirements

For domestic instructions with counterparties in T2S-in markets, the following matching requirements will apply.

#### Mandatory matching requirements

T2S compares the following mandatory matching fields of an instruction. The following fields are mandatory for both against payment and free of payment settlement instructions:

- Payment type
- Securities movement type
- ISIN code
- Trade date
- Settlement quantity
- Intended settlement date
- Delivering party BIC
- Receiving party BIC
- CSD of delivering party
- CSD of receiving party

In addition, for against payment transactions, the following fields are also mandatory:

- Currency
- Settlement amount
- Credit/debit

#### Optional and additional matching requirements

T2S also defines a number of non-mandatory matching fields, applicable to all instruction types. These are split into two categories:

- "Additional" matching fields, cannot match against blanks (i.e. if one counterparty fills in an additional matching field, the other counterparty also has to fill it in). Applicable fields are:
  - Opt-out ISO transaction condition indicator
  - Ex-coupon/cum-coupon indicator
- "Optional" matching fields, can match against blanks (i.e. the transaction will match if only one counterparty fills it in, however if both counterparties provide a value, the value must be the same). Applicable fields are:
  - Common trade reference
  - Customer of delivering CSD participant
  - Customer of receiving CSD participant
  - T2S SAC of delivering party
  - T2S SAC of receiving party

#### Matching tolerance

If all fields in both instructions match with exception of the settlement amount, T2S checks if the difference between both settlement amounts is within the tolerance amount defined in T2S. The T2S tolerance is not fixed but depends on the cash amount as follows:

- Up to EUR 100 000, tolerance of EUR 2
- Over EUR 100 000, tolerance of EUR 25

If there is more than one potentially matching settlement instruction in the system, T2S matches against the one with the smallest difference in the settlement amount. If there is more than one potentially matching settlement instruction with an identical settlement amount, T2S matches against the one with the closest entry time in T2S.

If instructions with different settlement amounts match, the amount of the delivering party settles.

# 2.7 Settlement timing

## 2.7.1 ICSD settlement day



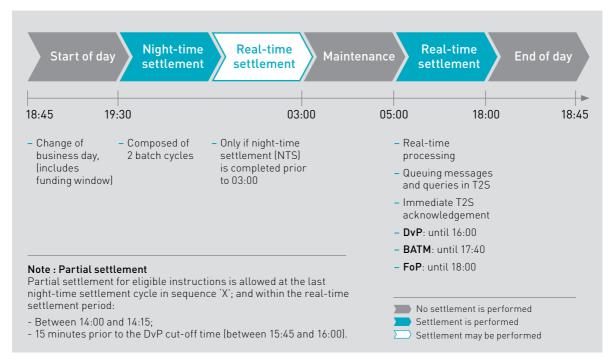
Settlement processing for CoBM will take place via CBL in its function as an ICSD. The cycle consists of one real time processing window from 21:30 in the evening of the business day preceding the settlement date (SD-1), continuing until 20:05 on the SD. This is followed by end of day processing, which is scheduled to complete by 20:35.

Instruction input deadlines are as follows:

- For internal transactions, the instructions can be input for mandatory settlement from 21:30 on SD-1 until 14:45 on SD. Optional settlement instructions can be input until 20:00
- For Bridge transactions (i.e. settlement with counterparties in Euroclear Bank), instructions can be input for mandatory settlement 21:30 on SD-1 until 13:00 on SD. Optional settlement instructions can be input until 15:00 on SD for against payment instructions and 16:00 on SD for free of payment instructions
- The input deadline timings of external transactions may differ, we publish a <u>settlement</u> <u>timings matrix</u> on our website which provides comprehensive information concerning such deadlines in the domestic markets in which we operate

Alongside the development of T2S, Clearstream is also implementing a new asset servicing model for T2S-in markets. As this model is put into place, customers in T2S-in markets will benefit from a unique cutoff time for all the T2S markets and a single processing window representing a vast simplification of the deadline model. This will be explored in more detail in a separate chapter.

## 2.7.2 T2S settlement day



The settlement day under T2S will consist of the following steps:

- Start of day (SOD) preparation period from 18:45 to 19:30 of the business day preceding the settlement day (SD-1), during which customers may provision their DCA
- Night-time settlement (NTS) from 19:30 of SD-1 until at the latest 03:00 on the settlement day (SD). During NTS, two batch settlement cycles will be run, which involve the following order of sequences:

#### Cycle 1:

- Liquidity management instructions
- Processing of corporate actions on stocks
- FoP instructions for rebalancing
- Central bank operations
- Processing of all instruction types

### Cycle 2:

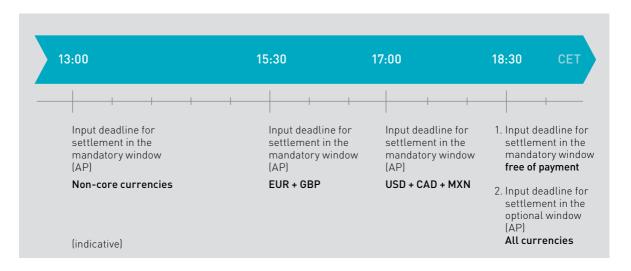
- Processing of all instruction types
- Processing of all instruction types and partial settlement
- Reimbursement of liquidity provided by multiple liquidity providers
- Liquidity management instructions
- If NTS ends before 03:00, there will be a brief real-time settlement (RTS) window from the end of NTS until 03:00.
- A maintenance cycle from 03:00 to 05:00 during which no settlement will be performed
- A long real-time settlement window from 05:00 to 18:00
- An end of day processing window from 18:00 until 18:45

## 2.7.3 Bridge improvements

Deadlines for Bridge settlement will be extended to match settlement within T2S. Both ICSDs continue to work together to improve the current interoperability between the two settlement platforms.

Improvements will include (indicative):

- Better mandatory input deadlines for against payment instructions in EUR and GBP from the current 13:00 to 15:30.
- Better mandatory input deadlines for against payment instructions for USD, CAD and MXN from the current 13:00 to 17:00
- Better average turnaround time for a Bridge transaction after 13:00 from the current 60-120 minutes to 10-40 minutes



# 2.8 Reporting

Reporting profiles can be set up and tailored to customers' own business requirements. Customers are asked to specify which reports they wish to receive/retrieve, and via which communications media. They can do this via the CreationOnline Report Subscription facility where they specify the delivery channel, format, frequency and time of the reports they want to receive. Alternatively, customers can send a SWIFT MT599 or a subscription form signed by authorised signatories for the attention of the OBT Administration department in Luxembourg.

The CreationConnect communications media: CreationOnline; CreationDirect; and Creation via SWIFT, are based on ISO 15022 standards and terminology. As ISO 15022 terminology is used for message types, MTxxx applies to these three components as appropriate. A similar offering will be available via ClearstreamXact.

# 2. CBL settlement in a post-T2S environment

The following table summarises clearing and settlement reports and their availability and shows if the equivalent information can be queried using CreationOnline. The report formats available for download via CreationOnline or via CreationDirect are also shown.

**Note:** The times indicated for report availability are approximate and may be subject to delays in processing beyond CBL's reasonable control. CBL does not accept any liability for such delays.

		Croation		
Report	Available	via SWIFT Cre	eationOnline	CreationDirect
MT508 Intra-Position Advice	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00; 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:00; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 23:00; 00:00  Format: this report is only available in ISO format.	ISO	ISO Queries	ISO
MT536 Statement of Transactions	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 23:00; 00:00  Daily: 21:15; Weekly: 21:15; Monthly: 21:15	ISO	HTML ISO PDF XLS XML Queries	ISO PDF XLS XML
MT537 Statement of Pending Transactions	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00  Daily: 21:15 Weekly: 21:15; Continuous: every 15 minutes	ISO	ISO PDF XLS XML Queries	ISO PDF XLS XML
MT538 Statement of Intra- Position Advice	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00  Daily: 21:15; Weekly: 21:15; Monthly: 21:15	ISO	ISO PDF XLS XML Queries	ISO PDF XLS XML
MT54x Settlement Confirmations	Via SWIFT:Real-time  Via CreationDirect: Intraday: 01:00; 02:00; 03:00; 04:00; 05:00; 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 23:00; Continuous: every 15-20 minutes	ISO	ISO Queries	ISO
MT548 Settlement Status and Processing Advice	Via SWIFT: Real-time  Via CreationDirect Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00; Continuous: every 15-20 minutes	ISO	ISO Queries	ISO
MT578 Settlement Allegement	Via SWIFT: Real-time  Via CreationDirect Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00	ISO	ISO Queries	ISO

# 2. CBL settlement in a post-T2S environment

Report	Available	Creation via SWIFT	CreationOnline	CreationDirect
MT586 Statement of Settlement Allegements	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00  Daily: 21:15; Weekly: 21:15; Monthly: 21:15; Continuous: every 15 minutes	ISO	ISO PDF XLS XML Queries	ISO PDF XLS XML
Statement of Repaired Transactions	Weekly: 21:15; Monthly: 21:15		PDF XLS XML	PDF XLS XML
MT900/910 Confirmation of Debit/Credit	Via SWIFT:Real-time  Intraday: 01:00; 02:00; 03:00; 04:00; 05:00; 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00	ISO	ISO Queries ISO Queries	ISO
MT940 Money Suspense	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00  Daily: 21:15; Weekly: 21:15; Monthly: 21:15	ISO	ISO PDF XLS XML Queries	ISO PDF XLS XML
MT942 Interim Money Suspense	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:30; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 21:30; 23:00; 00:00  Daily: 21:15; Continuous: every 15 minutes	ISO	ISO PDF XLS XML Queries	ISO PDF XLS XML
MT950 Cash Balances	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:00; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 23:00; 00:00  Daily: 21:15; Weekly: 21:15; Monthly: 21:15; Quarterly: 21:15; Yearly: 21:15	ISO	HTML ISO PDF XLS XML Queries	ISO PDF XLS XML
MT950 Money Statement	Intraday: 01:00; 02:00; 03:00; 04:00; 05:00, 06:30; 07:30, 08:30; 09:30; 10:30; 11:30; 12:00; 13:00; 13:30, 14:30; 15:30; 16:00; 16:30; 17:00; 18:00; 19:00; 21:15; 23:00; 00:00  Daily: 21:15; Continuous: every 15 minutes	ISO	HTML ISO PDF XLS XML Queries	ISO PDF XLS XML

#### 2.9 Cancellation

#### 2.9.1 ICSD instruction cancellation

#### Internal instructions

Internal instructions are deemed to be entered into the settlement system and become irrevocable under the CBL securities settlement system rules in accordance with article 111 of the Luxembourg Law of 10 November 2009 on Payment Services, as of their extraction from the applicable transactional system for processing in the CBL settlement system.

Internal instructions cannot be unilaterally cancelled by a customer beyond this point.

Internal instructions can be bilaterally cancelled beyond this point if matching cancellations issued by both customers are received by CBL before the initial internal instructions are settled in the CBL settlement system on settlement date. If no matching cancellations are received by then and the instruction has not settled by the end of day processing on settlement date, CBL will, in the name and on behalf of the customer, and unless instructed otherwise in writing by the customer, issue a renewed cancellation request for the new instruction for settlement on the next settlement date issued under the default option mentioned below; such new cancellation request must be matched by the customer's counterparty on the same settlement date.

Internal instructions that have settled in the CBL settlement system are final. Instructions are reported to customers as settled via CreationOnline, CreationConnect MT536 (Statement of Transactions), MT54x and an additional MT950 (Money Statement) for against payment.

Matched internal instructions that have not settled by the end of day processing on settlement date are failed. In such cases, CBL will initiate, in the name and on behalf of the customer, a new instruction for settlement on the next settlement date. This is the default option applied to all internal instructions, unless instructed otherwise by the customer to CBL in writing. Customers can cancel this default option for a specific internal instruction by written request sent to CBL after the time this instruction is issued and before 18:00. When the default option does not apply, in cases of failed instructions, no new instruction will be initiated by CBL for settlement on the next settlement date. The customer is responsible for issuing a new instruction that must be matched by the instruction of the customer's counterparty.

The default option applies to unsettled instructions for a period of 45 calendar days after the requested settlement date. At the end of this period, the customer who submitted the instruction is requested either to cancel the default option or to confirm it, in writing, for this specific instruction. If the default option is neither cancelled nor confirmed for this specific instruction, the default option will apply for a further 15 calendar days, after which it will cease to apply. If confirmation is received from the customer, the 60 calendar-day period (that is, 45 plus 15) starts over again.

#### **External instructions**

The irrevocability of external instructions and the finality of deliveries of securities to or from a domestic counterparty are determined by specific domestic market rules. Details for specific markets are given in the relevant market guide provided via our website.

An external instruction is settled in either of the following circumstances:

- If it has been settled in the domestic market but is not yet reported as settled or
- If it has been reported as settled via CreationOnline, CreationConnect MT536 (Statement of Transactions), MT54x and additional MT950 (Money Statement) for against payment or MT537 (Statement of Pending Transactions) and additional MT94x (Money Suspense report) for against payment.

#### **Bridge instructions**

Customers can request a cancellation for all Bridge securities instructions already sent to CBL. A Bridge receive instruction can be cancelled unless it has been reported as settled via CreationOnline, CreationConnect MT536 (Statement of Transaction), MT54x and additional MT950 (Money Statement) for against payment.

A Bridge delivery cannot be cancelled or amended in the following circumstances:

- If provision has been debited from the account during the settlement processing but confirmation or refusal of the transaction has not yet been received from the counterparty
- If it has been reported as settled via CreationOnline, CreationConnect MT536 (Statement of Transactions), MT54x and additional MT950 (Money Statement) for against payment

#### Back-to-back transactions

Customers cancelling back-to-back instructions (see section <u>2.11.2</u> for more details) that have already been released into the market must first cancel the linked delivery instruction. Customers can cancel the linked receive instruction when CBL has received confirmation of the cancelled linked delivery instruction from CBL's depository. Customers cancelling back-to-back instructions that have not been released into the market must follow the same procedure as for the cancellation of a standard non-linked instruction

If only one of the linked instructions is cancelled the pool is broken so the remaining instruction will stay in the system and not be processed at all unless a new instruction is entered to complete the pool.

It is not possible to amend instructions that belong to a valid back-to-back pool. This includes changes to the pool ID itself. A pool ID cannot be added to a valid instruction, and a back-to-back instruction that has already been accepted by CBL cannot be "de-linked". In these cases, the instructions must be cancelled and re-input.

#### 2.9.2 Instruction cancellation in T2S-in markets

The process for cancelling an instruction will be different dependent on whether the instruction is matched or unmatched. More details on the process in both cases are provided below.

It is important also to note that if settlement instructions do not settle on the intended settlement day, T2S charges the customer for each day after the intended settlement day with the full settlement fee until the instruction is settled or cancelled. Cancellation can be requested via the existing MT540-MT543 CANC messages.

#### **Matched instructions**

Matched instructions will require the cancellation of both instruction legs to execute the cancellation. If a cancellation is requested for one instruction leg, the transaction can still be eligible for settlement.

This bilateral cancellation model will be applicable to all matched and already matched domestic and cross-border instructions in T2S.

When one counterparty requests the cancellation it is forwarded to T2S for processing. In T2S, the cancellation request is processed immediately within the daytime window. Cancellations sent during the night-time sequences are only processed after the end of the sequence.

If the cancellation is accepted by T2S, the counterparty receives a status update for their respective instruction. For CBL customers, this update will be sent via MT548.

Only when T2S receives the counterparty's cancellation request then both instructions are finally cancelled. Both counterparties receive the confirmation of the cancellation. For CBL customers, this update will be sent via MT548.

# 2. CBL settlement in a post-T2S environment

Cancellation requests can either be rejected (if not correct) or denied (the respective instruction is either cancelled or settled), if:

- The referenced settlement instruction is set on CoSD¹ Hold (securities are reserved) and the respective conditions outside T2S cannot be reversed. In this case cancellation request will be rejected
- The instruction is already "settled" or "cancelled"
- The cancellation request is a duplicate

#### Unmatched instructions

Unilateral cancellation applies to all unmatched instructions. Customers can cancel their unmatched instructions and T2S automatically cancels unmatched instructions after the end of the T2S automated cancellation period, that is, after 20 working days from the intended settlement date or the last status update of an instruction.

# 2.10 Recycling

## 2.10.1 ICSD instruction recycling

Any instruction that has not been transmitted to the domestic market or has been cancelled remains in suspense for a period of 45 calendar days after the requested settlement date. At the end of this period, the customer who submitted the instruction is requested to either cancel or confirm it. If the instruction is neither cancelled nor confirmed, it remains in suspense for a further 15 calendar days, after which it is automatically cancelled. If confirmation is received from the customer, the 60 calendar-day period (that is, 45 plus 15) starts over again.

## Instruction recycling service

The instruction recycling service improves the handling of settlement of instructions when the instruction relates to a security code that has not been opened by CBL. The standard procedure is to keep the instruction pending until the end of the real-time processing (RTP) period of the business day of its receipt. If the security code is opened before the end of the RTP of the business day of its receipt, the instruction is accepted for regular processing. In the event that the security code is not opened by the end of RTP, the Instruction is automatically cancelled and a new instruction must be submitted by the customer when the security code is finally opened.

Customers who have subscribed to the instruction recycling service will, when sending a settlement instruction in a security code not yet open in Clearstream, avoid automatic cancellation at the end of the RTP because the instruction is kept pending for a longer period while the eligibility of the security code in Clearstream is investigated.

The settlement instruction will be recycled during a period starting on and including the day of receipt of the instruction up to the customer's requested settlement date (RSD) or for four business days, whichever is the longer (the "recycling period"). The instruction will remain pending until the related security code is opened within the recycling period. If the related security code is not opened within the recycling period, the instruction will automatically be cancelled at the end of the recycling period. Admittance to the instruction recycling service is at the discretion of Clearstream.

## 2.10.2 T2S instruction recycling

Generally speaking matched settlement instructions stay in T2S until they are settled or cancelled bilaterally; they are neither cancelled automatically by T2S nor by Clearstream. This also is the case if only one party has sent a cancellation request. T2S does not foresee a default termination of the life cycle period for matched instructions, so unlimited recycling takes place for matched instructions.

## 2.11 Additional settlement functionalities

Clearstream will also adjust its services to offer as many of the settlement functionalities available via T2S as are allowed in the market in question. Below we briefly outline all of these new functionalities. Not all of these functionalities will necessarily be provided in all T2S markets. Clearstream's current ICSD functionalities will continue to be offered.

Specifics regarding what T2S features are provided in individual T2S markets, along with changes to ICSD settlement instructions needed to ensure compliance with T2S features, will be provided on our website in the market guide for the market in question.

## 2.11.1 Partial settlement

Partial settlement is already offered in some markets where SWIFT ISO 15022 standard formats are applicable. Whether partial settlement is allowed depends on the local market practice, as does the minimum amount required for such partial settlements. Information on local market practices in this respect is provided in our individual domestic market guides on our website.

As a new feature of T2S, external instructions in T2S-in markets will be able to be split to allow the partial settlement of an instruction in the case of a lack of securities or cash. There will be one NTS partial settlement sequence, as well as two 15 minute windows for such partial settlement during the day, the first at 14:00 and the second at 15:45.

Customers will indicate partial settlement instructions by adding a flag to MT540-MT543 and MT530 messages in ISO 15022. This partial settlement flag will be provided in sequence E Settlement Details via field 22F (indicator) using the qualifier "STCO" (Settlement Transaction Condition Indicator) with the following codes:

- NPAR: Partial settlement is not allowed
- PARC: Partial settlement is allowed and must satisfy a cash value minimum
- PARQ: Partial settlement is allowed and must satisfy a minimum quantity of securities
- PART: Partial settlement allowed

It is important to note the following:

- Partial settlement services are not offered by Transfer Agents or Investment Funds
- Partial settlement confirmations received on back-to-back or repo instructions (see section 2.11.2 on instruction linking) are processed differently as the original instruction is cancelled and partial settlement confirmations are applied as follows:
  - For partial receipts, a manual credit of securities and a manual cash debit (if it is an against payment transaction) are booked on the customer's account
  - For partial deliveries, a manual debit of securities and a manual cash credit are booked on the customer's account

When an instruction is partially settled in T2S, customers will receive a settlement confirmation (MT54x, MT536) and an MT548 for the remaining part. For CBL customers we will apply the same rules as today, cancelling the original instructions and inputting replacements.

## 2.11.2 Instruction linking

### ICSD instruction linking

### **Contingent transactions**

Customers can automatically make deliveries or receipts of securities dependent (contingent) upon the prior settlement of other, specifically linked, securities transactions.

There are two methods:

- Settlement of one or several deliveries can be made dependent on the successful settlement of one or several receipts (Delivery Contingent on Receipt DCR)
- Settlement of one or several receipts can be made dependent on the successful settlement of one or several deliveries (Receipt Contingent on Delivery RCD)

Links are indicated via a Pool ID. The linking conditions DCR or RCD and the appropriate Pool ID can be specified immediately when sending instructions to Clearstream or, provided that the transactions are still pending, they can be added or amended at a later stage. Removing linking conditions from a pending instruction is not possible. Instructions that are already being settled must not be part of the group of instructions to be linked.

Pool IDs must be unique, and are formed of up to 16 alphanumeric characters including the preceding code word DCR or RCD.

Please note, this functionality cannot be used in conjunction with the following:

- Domestic back-to-back processing
- Domestic repo

### Back-to-back against payment transactions

The same securities can be received and delivered ("back-to-back") several times during a settlement cycle. These transactions are processed in "transaction chains". Transaction chains are made up of all transactions in the same security within the same settlement cycle. Unsettled securities transactions are recycled in several settlement cycles as new information is received from depositories and from Euroclear Bank over the Bridge.

If, in each chain, the initial deliverer has securities provision and the final receiver has cash provision, all internal transactions can be settled by netting through the flow of securities and cash in the chain. If provision is lacking on either side or on both sides, the chain is retried, taking the counterparty or counterparties next to the failing deliverer and/or receiver.

#### Instruction linking in T2S-in markets

Customers can link T2S settlement instructions together, so that they are settled at the same time or in a specific sequence. Customers will can link instructions that are:

- Instructed by the same T2S party (i.e. own instructions)
- Instructed by another party for which the customer operates the account via Power of Attorney (PoA)

There will be two methods for linking instructions:

- Linking several instructions via a common pool reference ("pool")
- Linking two or more settlement instructions via a processing position code ("linkage")

Customers can remove, add or change linkages of existing instructions.

#### **Pooled instructions**

A pool reference is a collective reference to identify a set of settlement instructions that are to be settled together as a group or not at all. Up to 999 settlement instructions can be linked within one pool reference. Customers can define a pool reference themselves with a combination of up to 16 alphanumeric digits (SWIFT compatible-character set X).

#### Individually linked instructions

Individual instructions can be linked with the following process positioning codes:

- WITH = settle together with the linked instruction
- BEFO = settle before or at least at the same time as the linked instruction
- AFTE = settle after or at least at the same time as the linked instruction
- INFO = link for information only

Clearstream customers can link up to 10 instructions in this way. Please note, the WITH, BEFO and AFTE process positioning codes will not be available in conjunction with the partialling services outlined in section 2.11.1.

## 2.11.3 Conditional securities delivery in T2S-in markets (CoSD)

In addition to linked instructions, T2S will be able to create instructions which are conditional on an event taking place outside of T2S. An example of a situation in which this might be used would be a FOP delivery inside T2S with a cash leg T2S in a non-T2S eligible currency. This will help facilitate settlement transactions between markets inside T2S and those outside.

#### 2.11.4 Hold/release mechanism

#### ICSD hold/release

The hold/release mechanism enables customers to temporarily hold back a securities transaction from settlement, even if cash or securities provision is available, and to release it only when settlement is desired.

The service is available for internal, Bridge and domestic instructions, free of payment or against payment.

The "hold" condition can be specified immediately when sending instructions to Clearstream or, provided that the instructions are still pending in Clearstream, it can be added at a later stage.

The "hold flag" on a pending instruction can be removed by the sender of the instruction.

Instruction matching is unaffected by the hold/release functionality. Once released, the instruction follows the normal settlement pattern.

Customer reports indicate the hold/release status of the instruction as follows:

- Status BOTH is reported when the two matching instructions are on hold
- Status PREA is reported when the emitter's instruction is on hold and his counterparty's instruction is released
- Status PRCY is reported when the counterparty has instructed an instruction "on hold" and the sender has entered a released instruction

Cash balance forecast reports include the cash countervalue of instructions "on hold", provided they qualify for inclusion in the calculation according to existing rules. The fact that instructions are on hold has no impact on forecast calculations.

#### Restrictions on usage

An instruction cannot be held back from settlement in the following instances:

- The instruction to be put on hold is "locked-in" for settlement or provisioned and released to the domestic market. Instructions that had been transmitted to a settlement location external to Clearstream cannot be put on hold, even if the actual domestic settlement has not yet taken place
- The instruction has reached an end of life state
- The instruction is part of a "domestic back to back pool" (see section <u>2.11.2</u>) or "repo transaction pool". These different pool types cannot be commingled with 'hold/release', regardless of whether a pool status is complete or incomplete

Cash and "for matching only" instructions cannot be put on hold.

The "hold/release" mechanism can be used in combination with transaction linking (see section 2.11.2) but the following must be considered:

- Transaction linking automatically puts the contingent instruction(s) on hold until settlement of the linked instruction(s) is achieved. Hence contingent instructions that are pending cannot be put on hold as they have this status already
- Placing a linked instruction on hold means that contingent instructions cannot settle until the linked transaction upon which their settlement depends has been released and settled
- Releasing an instruction that is contingent on the settlement of a linked transaction results in the link being broken for that instruction and it is released for normal settlement

Note also that the "hold flag" overrides any priority setting (see section <u>2.11.5</u>) for the provisioning of the instruction on hold. Priority will take effect only when the instruction is released for settlement.

#### Hold/release in T2S-in markets

T2S will allow us to offer customers the functionality to hold and/or release settlement instructions at any time during the life cycle until they are settled or cancelled.

There will be four different hold indicators in T2S:

Party Hold
 Can be set by CSD participants

• CSD Hold Can be set only by CSDs

CoSD Hold
 CSD Validation Hold
 Will be set automatically by T2S

A settlement instruction can be sent initially "on hold" or already "released"

For Party Hold, the hold indicator can be changed in both directions. In other words customers will be able to modify the instruction from on hold to released, and vice versa.

If an instruction is on hold on the intended settlement date (ISD), T2S informs the counterparty that its instruction cannot be settled due to the fact that settlement instruction is on hold without detailing the type of hold.

Customers can use MT54X PREA/NEWM or MT530 to communicate "party hold". Additional hold and release codes "CSD Hold", "CSD Validation Hold" and "CoSD Hold" are required to be reported in MT537 and MT548.

#### 2.11.5 Message prioritisation

#### ICSD message prioritisation

Clearstream may choose to process certain transactions before others. Customers can also prioritise both deliveries (to control settlement in a specified security code) and receipts (to control the use of funds).

#### Forced transactions

Clearstream may "force" transactions such as:

- Securities settlement and fund payments, where settlement has already occurred and the account is to be updated
- Primary market transactions, where funds have been released through the lead manager
- Fees and charges due on the account

Forced transactions always have the highest priority.

#### **Prioritised transactions**

Customers may assign priority via a priority code, which gives one transaction priority over other instructions ready for settlement on the same account and in the same security or currency. Customers can prioritise a securities transaction when the instruction is first sent to Clearstream. Instructions can be set to either normal or high priority. The priority field can also be left blank.

It is possible to add priority to pending instructions, but this will depend on the transaction type and on the stage the instruction is at in its life cycle. If the transaction is internal to Clearstream, priority can be added at any stage. If however the instruction is not an internal transaction, whether it is possible to set priority depends on the following conditions:

- If the instruction has been processed at least once and as a result appears in an MT537 (statement of pending transactions), priority can be added at this stage, unless the instruction is already provisioned
- If the instruction has been sent but not yet processed, the customer must cancel the instruction and send a new one, specifying a priority code, under a new transaction number

The priority code takes effect when the transaction reaches the processing for the requested settlement date and if all matching requirements for settlement are satisfied. The priority code is most effective on deliveries of securities, free or against payment. Provision is reserved to settle the highest priority transaction. Once reserved, this provision cannot be used to settle any other instruction as long as the highest priority transaction is still eligible for settlement.

During real-time settlement and end of day processing, not all instructions are permanently presented for settlement as not all are continuously eligible. Eligibility for settlement and provision depend on the following:

- The settlement period: mandatory or optional
- The processing timings of domestic markets
- For Bridge transactions, the file exchange timing scheduled between Clearstream and Euroclear Bank

Only prioritised instructions eligible for settlement can be prioritised according to the customer's settlement sequence. Additionally, transaction linking and hold/release functionalities are available (see sections  $\underline{2.11.2}$  and  $\underline{2.11.4}$ ) to further secure the transaction settlement sequence.

A priority code can also be input on an against payment receipt internal instruction and a Bridge receipt instruction (MT541 instruction) to determine which transaction will settle first if funds are insufficient to settle all transactions. In this case however the priority handling of receipt instructions cannot be guaranteed in all instances as it can be overridden by the priority treatment of deliveries.

# 2. CBL settlement in a post-T2S environment

Furthermore, it can only take effect if the counterparty presents the securities for settlement. If the counterpart of a prioritised receipt instruction is not able to propose his delivery, other purchases/receipts in the same currency can nonetheless be settled.

In the event that there are insufficient funds to settle all eligible receipt transactions for a given security, the rules applied after considering the priority of instructions take the instruction with the largest countervalue first. In case of identical countervalues, the instruction with the lowest customer reference number is settled first.

Please note: a priority code cannot be input by the customer on cash instructions (MT210, MT103 or MT102)

#### Message prioritisation in T2S-in markets

T2S supports four different levels of priority for settlement instructions:

1. Reserved priority The highest level of priority. This can only be used by CSDs and NCBs

2. Top priority The second highest level of priority. This can only be used by SEs,

MTFs and CCPs

3. High priority Available all times for T2S actors4. Normal priority Available all times for T2S actors

Customers will have access to priority levels 3 and 4 as an optional instruction attribute. Priority can be provided by delivering or receiving party. In case of discrepancies, T2S applies the higher priority. If no priority is indicated by either party, T2S will assign the normal priority. This attribute is modifiable while the instruction is still pending.

During NTS, T2S will process instructions in an order based on two factors:

- The level of priority (higher priority instructions are processed before lower priority instructions)
- The settlement date (older dates settle are processed before more recent dates)

During RTS these two factors will only be taken into account during the recycling and optimisation process. The first settlement attempt is processed on a first come first served basis.

Priority can be modified by customers through MT530. The format will be modified to include a new qualifier "PRIR" in sequence B ("Request Details") in field 22F (indicator). This qualifier will be able to be modified to either '0003' (high priority) or '0004' (normal priority).

## 2.12 Main customer impact

CBL will continue to provide settlement solutions tailored to the specificities of the 54 domestic markets in which it operates. The link between Clearstream's ICSD and CSD functionalities will further enable customers to benefit from Clearstream settlement services for all eligible securities issued within T2S, across all asset classes and with all T2S eligible currencies.

For T2S-in markets, CBL will also implement as many of the new settlement functionalities offered by T2S as are allowed in the market in question. Coupled with improvements in Bridge processing for settlement with Euroclear counterparties, this represents a significant improvement on the current CBL settlement offering.

Further chapters will detail the following aspects of Clearstream's value proposition for T2S:

- Asset Services
- Cash and Banking
- Connectivity
- Collateral Management / Global Securities Financing activities
- Investment Fund Services
- Issuance Services
- Approach to waves 1 and 2

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