

Clearstream / Deutsche Börse Group Global Liquidity Hub

Facilitating Access to Cash Liquidity

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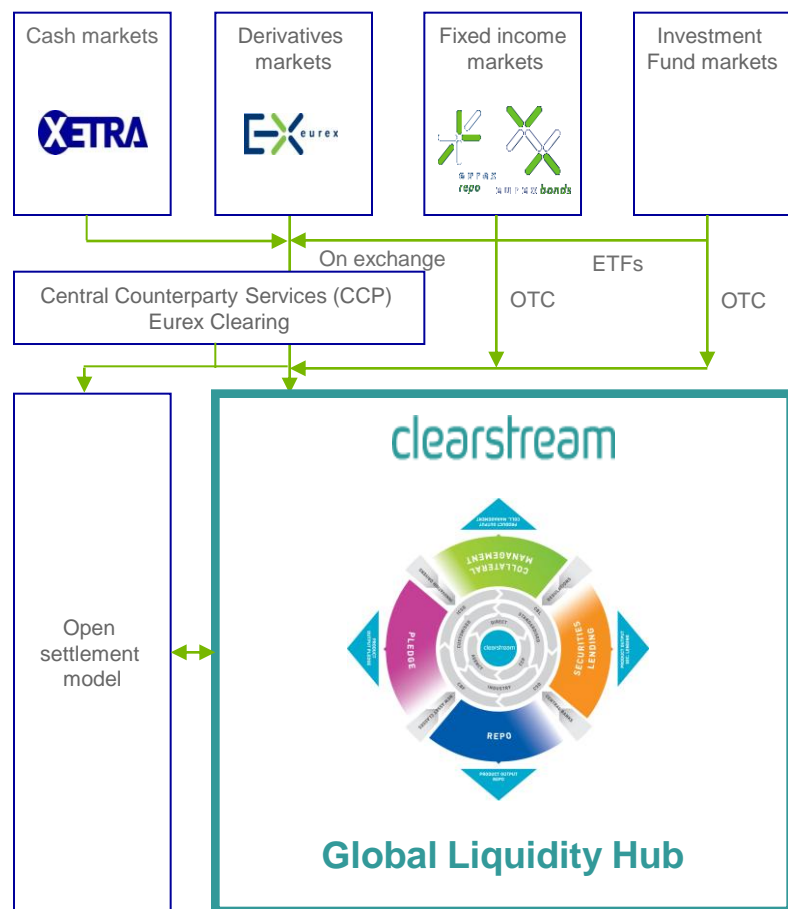
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Clearstream's Global Liquidity Hub

What it is



- A unique value proposition combining asset servicing, global securities financing and near-time interoperability across markets
- Securities lending and borrowing, repo and all collateral management activities
- Cash, fixed income and equities
- Over 540+ participants
- Wide range of counterparties from central banks and CCP's to banks, brokers, asset managers, insurance companies and non-financials.
- Over EUR 665 billion outstanding
- Full STP instruction management and reporting solutions
- Local sales and product specialists in London, Frankfurt, Luxembourg and Singapore
- Proactive marriage broking and bespoke client implementation service

Clearstream's Global Liquidity Hub

A history of innovation in collateral



- **1979** Automated Securities Lending
- **1992** First triparty repo service in Europe
- **1996** AutoAllocation / AutoSubstitution module
- **1999** Collateral allocation to the Bundesbank
- **2001** Collateral allocation to the Federal Reserve
- **2002** Strategic Securities Lending
- **2004** KAGplus
- **2005** EuroGC Pooling
- **2006** ASLplus, collateral re-use
- **2007** GC Pooling International



The Global Liquidity Hub was launched in 2009

- **2009** Collateral allocation to the BCL
 - **2010** Equities and Funds as Collateral
 - **2011** Liquidity Hub GO
 - **2012** Liquidity Hub Connect
 - **2013** Liquidity Hub Select / Collect
- Launch of Clearstream Repurchase Conditions (CRC's)

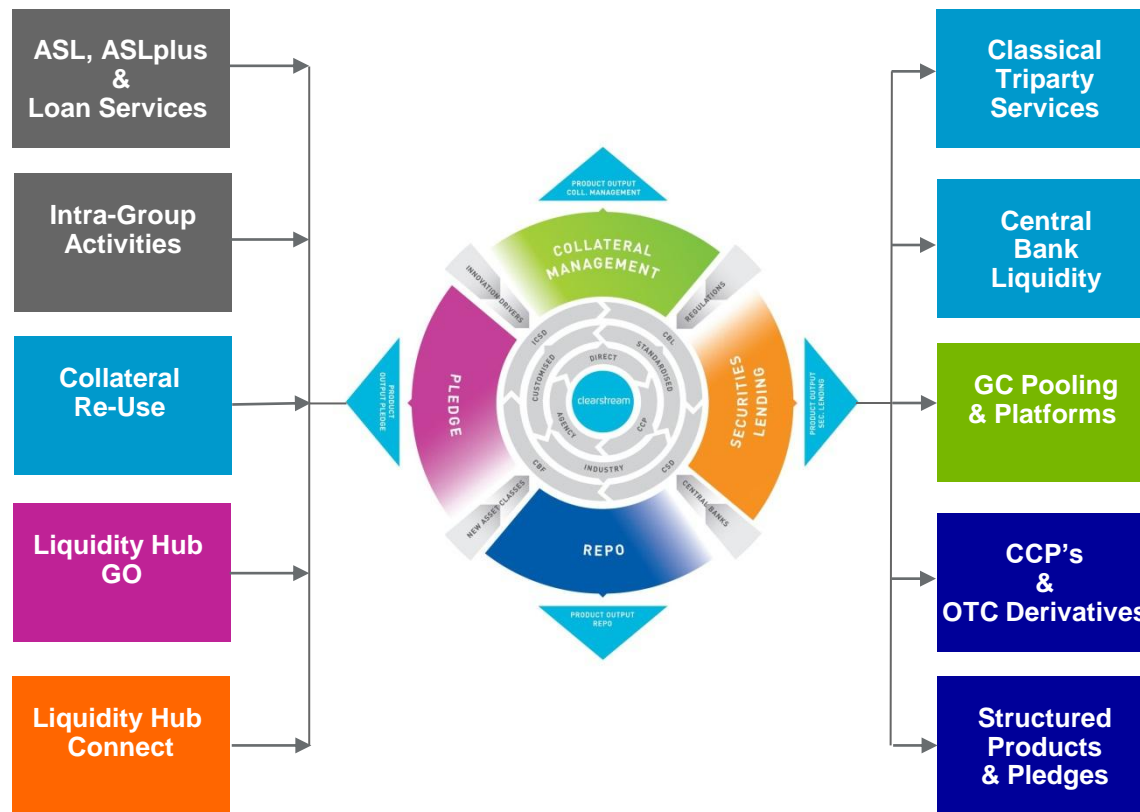
Other key facts and figures:

- Part of Deutsche Börse Group
- Securities lending, repo and collateral management
- Cash, fixed income, equities and funds
- Over 540 participants
- EUR 655 billion peak outstandings
- Dedicated GSF sales and operations teams

Clearstream's Global Liquidity Hub

Excellence in Collateral Management

The Global Liquidity Hub



Our proposal to you:

- A unique collateral management value proposition designed specifically for you.
- Maximize access to liquidity and optimize your use of collateral pools across multiple locations.
- Dedicated specialist sales team to build relationships
- Bespoke legal and operational support as needed.

Clearstream's Global Liquidity Hub

A summary of the services we can offer



Transform

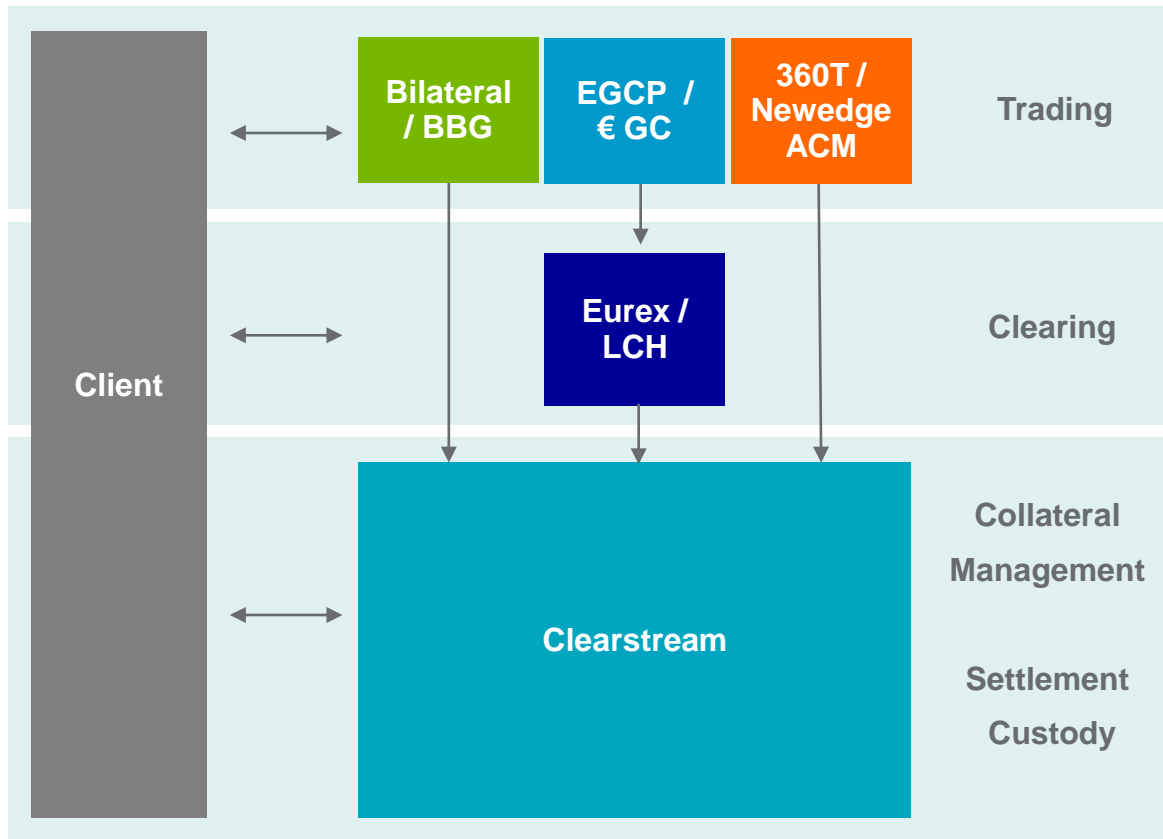
Segregate

Optimize

- **Cash Liquidity** : get access to cash financing in central & commercial bank money as well as sourcing liquidity from buy-side investors
- **Securities Lending** : support collateral upgrade, fails curing or asset swap transactions
- **Central Counterparties** : cover initial margin (IM) requirements for centrally cleared derivatives using tri-party and quad-party mechanics
- **Exotics and Structuring** : cover independent amount (IA) requirements for CSAs or other bilateral transactions
- **Collateral Optimization and Re-Use** : provide visibility over inventory and maximize its usage
- **Domestic Inventory Management** : facilitate the sourcing of collateral held with domestic CSDs or agent banks and sub-custodians

Transformation

Getting access to cash liquidity

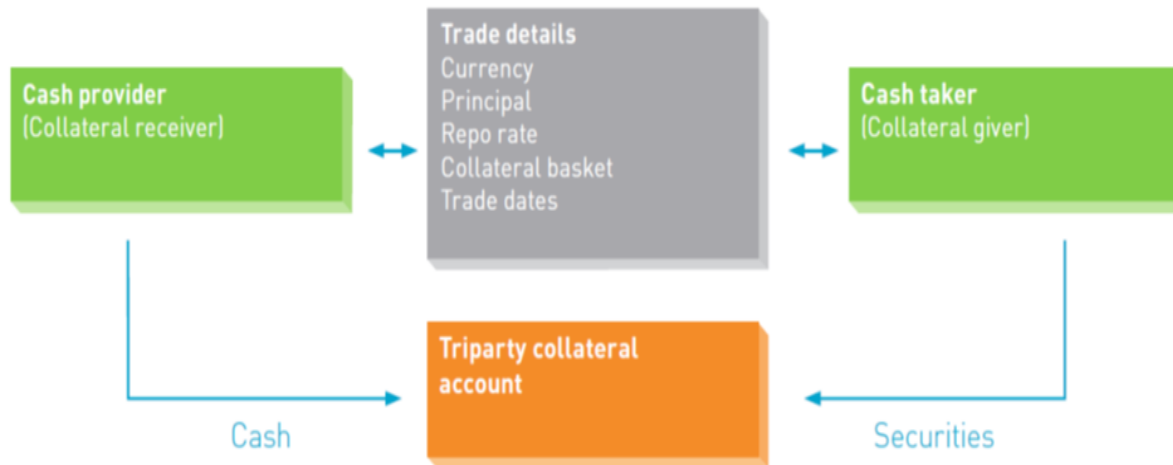


Giving clients a sophisticated collateral management tool for triparty repo.

- Flexible access to bilateral repo or platform-traded / quoted products
- Ability to use standardized baskets or a customized set-up
- A common collateral management interface for instructions, settlement and reporting

Triparty Repo Overview

clearstream



- Maintain principal relationship of true money market instrument
- A "no hassle", fully collateralised investment
- A neutral and flexible agency service
- Clearstream Banking handles the entire administration of your transactions:
- Deal confirmation and collateral eligibility check
- Multi-pieces and cross-currency collateralisation
- Delivery Versus Payment settlement (DVP)
- Daily mark-to-market
- Margin calls
- Substitution (DVP)
- Custody administration (coupon, redemption, etc.)
- Deal termination



Triparty Repo

Clearstream Repurchase Conditions (CRC)



Easing the bilateral legal process:

Typically, bilateral repo agreements are negotiated with each Triparty counterparty individually

CRC ease this lengthy and cumbersome process for customers newly entering the Triparty repo space:

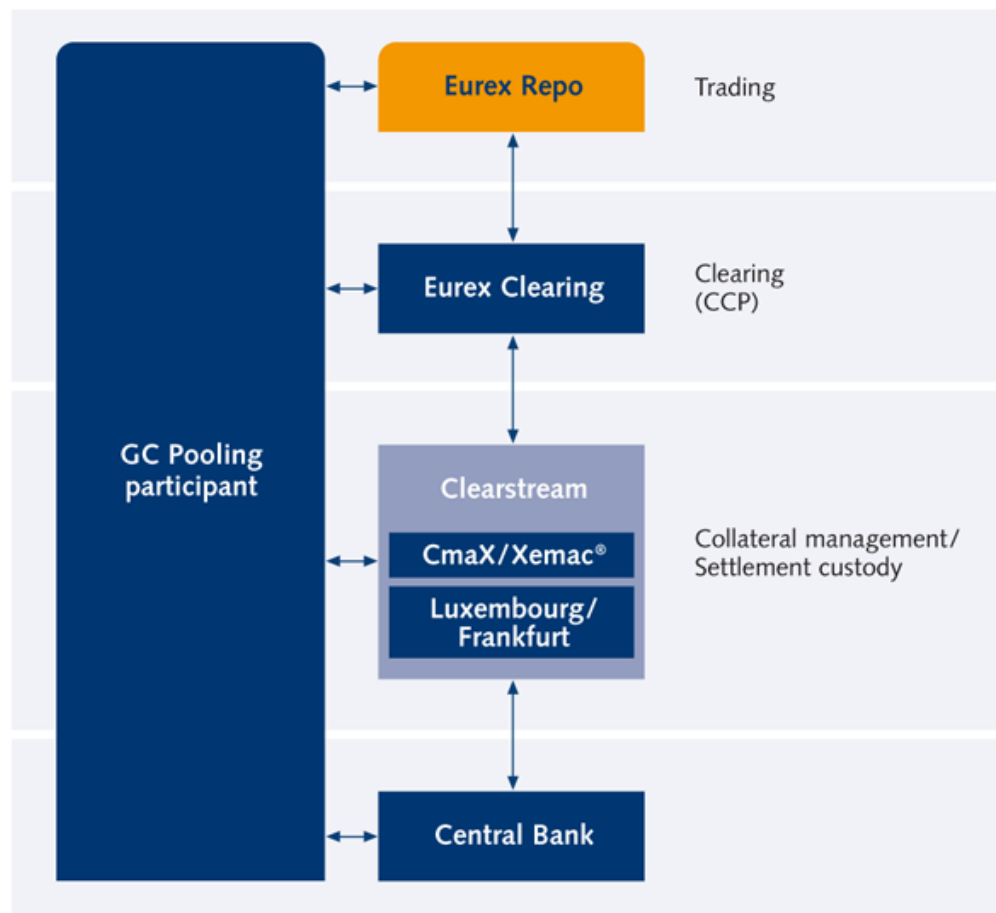
All customer accept the CRC one time and can trade repos with any other customer who also signed the CRC.

The CRC create a level playing field for all customers without need for individual negotiations.

* In case customers already have individually negotiated PRAs with counterparties in place in Clearstream, those can of course be reused.

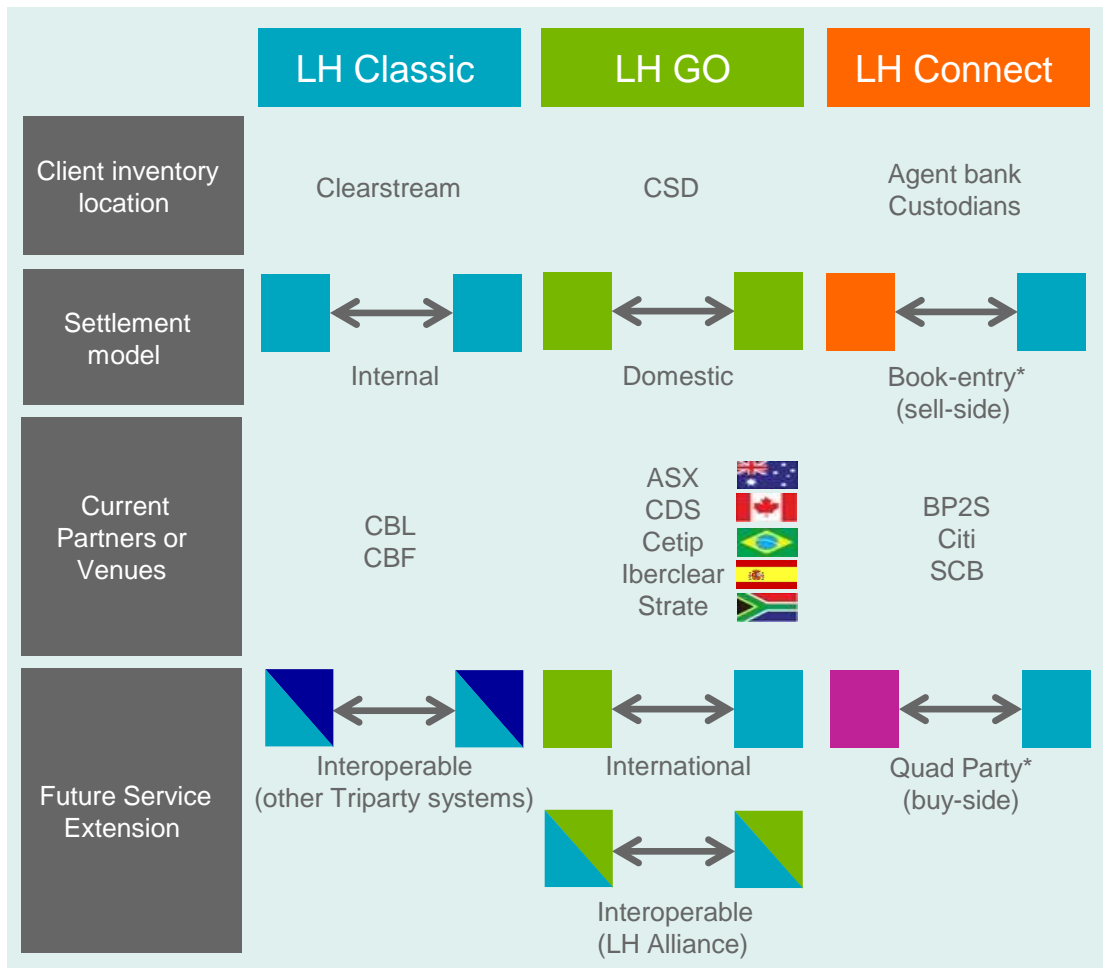
GC Pooling – Electronic trading platform with CCP and automated collateral management via Clearstream Banking

Concept



Optimization

Inventory management options



A robust framework for the industry:

- Maximizing the usage of both domestic and international assets
- Harmonized technology usage across domestic and international locations
- Full interoperability of domestic and international positions can also be achieved
- Real-time allocation and position monitoring
- Enables collateral management under local jurisdictional rules and market timings

* Subject to market, partner or legal / regulatory constraints

Clearstream's Global Liquidity Hub

Our value proposition



Our proposal to our clients.

- A unique collateral management solution tailored for you
- Leverage DBG services
- Maximize access to liquidity and optimize the use of collateral across multiple locations
- Multiple asset classes
- Dedicated specialist sales team to build relationships
- Bespoke legal and operational support as needed
- Real-time technology

