



November 2016

Disclosure Framework

Observance by Euroclear UK & Ireland
of the CPSS-IOSCO Principles for
Financial Market Infrastructures

Post-trade made easy

Disclosure Framework

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1. Executive Summary

Euroclear UK & Ireland Limited (EUI) operates a reliable, effective, low risk and efficient securities settlement system. EUI's activities have a sound legal basis and adequate governance arrangements. Its systems, procedures and risk management framework allow EUI and its participants to deal with the various risks they face in operating and using the system. Robust and effective rules and procedures are in place to handle default events.

Securities Settlement Systems (SSS) are a core component supporting financial markets. EUI strives to create a safe, sound and efficient settlement environment, working closely with regulators, to ensure that adequate protection is available to mitigate systemic risk.

The EUI Board and management ensure EUI maintains a low risk profile. This is achieved through a cautious business model, strong risk management practices (including conservative policies and proven methodologies) and also appropriate capitalisation.

Maintaining system availability is always the primary business aim.

Overall, EUI is able to observe the applicable CPSS-IOSCO Principles. However although EUI itself does not have any material credit or liquidity exposures, we do recognise that there is a residual inter-bank credit risk arising from the current CREST USD settlement mechanism which is relevant to three of the Principles. This risk is low given that the service accounts for only 0.6% of EUI's cash settlement settlement values.

It should be noted, for the purpose of this document, that under the Central Securities Depository Regulation (CSDR), the current USD settlement arrangements will be amended. EUI has agreed with the US Federal Reserve and is now in the process of implementing a USD solution which will ensure EUI's complete observance of principles 4, 7 and 9 by the time the relevant provisions of the CSDR take effect.

CSDR introduces a common authorisation, supervision and regulatory framework for EUI as the operator of a SSS, that will allow EUI to support and further enhance its observance of the CPSS-IOSCO Principles. The regulation came to force in September 2014 and is expected to be formally implemented into EUI business practice by the end of 2017. Extensive work has been undertaken by EUI during this period and will also continue to ensure that all aspects of our business fully comply with this detailed regulatory requirement.

The funds order routing service offered by means of the EMX Message System is not within the scope of this Disclosure Framework. Principles 5 (Collateral), 6 (Margin), 14 (Segregation and portability) and 24 (Disclosure of market data by trade repositories) are not applicable to EUI as a CSD and a SSS.

2. General background on the FMI

General description of the FMI and the markets it serves

EUI is approved as an operator of a relevant system under the UK Uncertificated Securities Regulations (USRs) and is regulated by the Bank of England (the BoE). EUI is also authorised as an operator of systems in Ireland, Jersey, Guernsey and the Isle of Man. EUI is a Recognised Clearing House (RCH) under the UK Financial Services and Markets Act 2000 (FSMA). EUI is also a recognised inter-bank payment system under the UK Banking Act 2009. The CREST system is also a designated system in the UK under the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 and in Ireland under the European Communities (Settlement Finality) Regulations 2010.

The main business services offered by EUI are summarised below:

- Real-time electronic settlement with legal finality, of a range of equity and debt securities, including UK gilts and money market instruments
- Multi-currency settlement in GBP, EUR and USD with Model 1 Delivery versus Payment (DvP) in Central Bank Money for GBP and EUR payments and bilateral assured payments for USD
- EUI provides support to several Central Counterparty (CCP) services offered to various trading platforms. EUI offers two types of clearing related services: the CREST Clearing Support Arrangement (includes the direct input service) and the CREST Central Counterparty Services (which includes direct input, the netting service, and maintenance of databases containing a variety of data such as open position data and margin data calculated by the CCPs)
- Fully dematerialised holdings of UK, Irish, Jersey, Guernsey and Isle of Man equities, debt securities, exchange traded funds (ETFs), Gilt securities (Gilts) and money market instruments (MMIs) and certain foreign securities through the CREST International Service
- Supporting dematerialisation and rematerialisation of securities through the CREST Courier and Sorting Service (CCSS)
- Settling bilateral stock borrowing, lending, collateral management and repurchase transactions

- Provision of data on corporate actions, electronic dividends, automatic generation and processing of market claims and transformations, and the settling of the movements associated with the full range of mandatory, optional and voluntary corporate actions
- Straight Through Processing (STP) for transaction reporting to the UK Financial Conduct Authority
- Collection and reporting of Stamp Duty Reserve Tax (SDRT) on behalf of HM Revenue and Customs (HMRC), and Stamp Duty on behalf of the Irish Revenue Commissioners (IRC)
- Links with other Central Securities Depositories (CSDs)/International CSDs (ICSDs) allowing settlement of international securities
- Real-time enquiry facilities
- Provision of transactional data to CCP participants including open positions, margins, historical prices and eligible securities
- EUI receives trade feeds from Central Counterparties, originating from the London and Irish Stock Exchanges and from various Multilateral Trading Facilities (MTFs).
- In the period May 2015 to October 2016 the CREST system settled over 92 million transactions, an average of nearly 240,000 per day
- An Investment Funds Service to facilitate notional settlement of certain investment funds and reconciliation to the legal register.

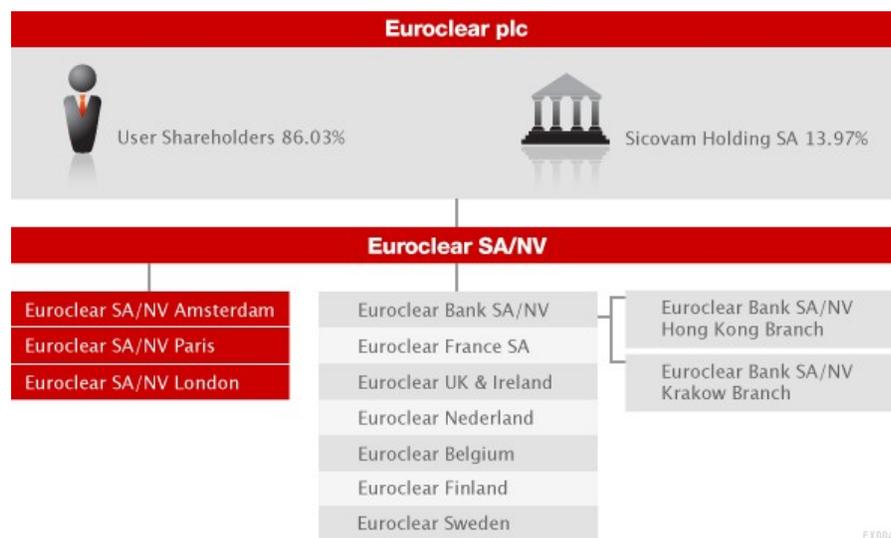
Average daily cash movements over the same period were:

- GBP 300 billion (excluding auto-collateralisation volumes)
- EUR 1.2 billion
- USD 2.2 billion

General organisation of the FMI

EUI is a CSD for UK, the Republic of Ireland, Jersey, Guernsey and the Isle of Man. The Euroclear group also comprises a CSD for France (Euroclear France), the Netherlands (Euroclear Nederland), Sweden (Euroclear Sweden), Finland (Euroclear Finland), Belgium (Euroclear Belgium) and an International CSD (Euroclear Bank).

Euroclear plc, incorporated in the UK, is the ultimate holding company of the Euroclear group. It owns Euroclear SA/NV (ESA), a Belgian financial holding company, which is the parent company of the group (I)CSDs. ESA acts as the Group service company and provides a broad range of common services to the group (I)CSDs, such as IT production and development, audit, financial, risk management, legal, compliance, human resources, sales and relationship management, strategy and public affairs and product management. The Euroclear group's shares are owned largely by the users of its services.



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System design and operations

EUI is neither a custodian nor a depository in the traditional sense, as it does not hold domestic UK, Irish, Jersey, Guernsey and Isle of Man securities on behalf of participants. Instead, we provide a means for the owners of those securities to hold them securely in an electronic dematerialised form and receive all shareholder benefits, such as dividends and participation in other corporate actions.

- Securities held in the CREST system are fully dematerialised
- The CREST system provides for the simultaneous exchange of payment and securities at the moment of settlement.

- Transactions may be the result of stock exchange bargains or off-market transactions, and may consist of deliveries of securities against cash, securities free of payment or cash-only movements.
- Securities are transferred only by means of electronic instructions sent to the CREST system across highly secure and resilient networks.
- CREST members are the direct legal owners of the securities and benefits.
- Under the laws of the UK, Ireland, Jersey, Guernsey and Isle of Man, the legal ownership of dematerialised securities is evidenced by the entries in the relevant register, which is maintained by Euroclear UK & Ireland (for UK securities), or by the issuing company or its registrar (for Irish, Jersey, Guernsey and Isle of Man securities)
- counterparties are required to input a corresponding instruction that matches a number of fields describing the transaction (for example, security traded, consideration and intended settlement date).
- Once a matching transaction is matched, it cannot be deleted unilaterally by either party.

Real-time settlement (on trade date, if required) means that participants can monitor and manage transactions throughout the day, to improve settlement performance. The CREST system provides real-time direct access to live data through its wide range of flexible messaging enquiries and the GUI.

- The CREST system accepts input between 04:00 and 20:00, and handles enquiries between 04:00 and 22:00.
- Settlement against payment for equities, gilts, eligible debt securities and notional fund units starts at 06:00.
- Settlement against payment stops at 14:55 for equities, gilts, eligible debt securities, notional fund units and cash.
- Participants can continue to deliver equities, gilts, eligible debt securities and notional fund units to other members free of payment until 18:00.
- The period between 15:00 and 17:30 is used solely for collateral movements.

EUI operates Central Counterparty (CCP) services, which together with the relevant CCP provide full counterparty anonymity and improved counterparty risk protection. The central counterparty services allow participants to take advantage of central sponsor arrangements and settlement netting.

- A central sponsor is the mechanism by which transactions in the CREST system are created on a participant's behalf.
- It eliminates the need for participants to input securities transaction instructions into the CREST system and provides for straight-through processing.
- Settlement netting allows the CREST system to replace a number of transactions between the same participants in the same security with a net transaction.

- With our cross-platform netting service, CCPs can generate a single net position per security for each of their participants across multiple trade venues. This net position can then be instructed for settlement in the CREST system.

The CREST International Service provides settlement and asset servicing for a wide range of international securities, including US, Canadian and European securities. Participants use the same client interface and system framework as for domestic securities. Corporate actions facilities are available, with processing carried out in the same way as for domestic securities. It also provides relief at source taxation services for US and Canadian securities.

EUI provides an efficient dematerialisation process for moving certificated securities into the CREST system. A holding of certificated securities can be converted into a holding of electronic securities with no change in the legal ownership of the securities. The CREST system is a voluntary solution and shareholders can choose to keep their securities in certificated form. As part of CSDR, full dematerialisation of newly issued securities is required by 2023 and of all securities by 2025. Notwithstanding any Brexit implications, the Government continues to support dematerialisation as an important strategic move. A Government consultation on the agreed Industry Model is due to take place early 2017. Where securities are not eligible for dematerialised settlement, the CREST system provides a residual settlement mechanism that enables the cash portion of the delivery to be reflected in the CREST system while the paper moves outside on a coordinated basis.

The CREST Investment Funds Service provides integrated, electronic order routing, settlement and reconciliation solution for UK funds transactions. Orders placed with fund managers can be settled through the CREST system on a T+4 basis. Orders placed via the EMX Message System can be routed into the CREST system and transactions created by direct input. Participants can monitor funds positions throughout the day and reconcile to the notional register in real time. The full range of automated corporate action functionalities, as well as switches and transfers, is also provided. Transfer of legal title takes place outside the CREST system, when the product provider or its registrar updates the legal register.

Clients can settle in GBP, EUR and USD. The CREST system respects the currency holidays of each currency; it does not settle in a given currency on a bank holiday for that currency. Participants need to have an arrangement with one of the payment banks that have agreed to offer credit to CREST members. The CREST system maintains a cash memorandum account (CMA) for each member, in one or more of the settlement currencies, as required by the member. A CMA shows the net balance of payments made and received by the member at any time during the course of the settlement day. Payment obligations between the payment banks are settled in real time through arrangements with the Bank of England for GBP, the Central Bank of Ireland for EUR and currently at the end of day for USD.

Summary of major changes since last update

In November 2015 EUI released the second phase of its internal management information system upgrade. This provided for future capacity and scalability and enabled the provision of a new suite of management information reports for CREST participants.

During the latter part of 2015 and throughout 2016, EUI has initiated various projects to enable CSDR compliance in the areas of record keeping, reconciliations, settlement discipline regime and US Dollar settlement.

In March 2016, EUI upgraded the auto-collateralising repo (SCR) functionality to include free of payment transactions. In April the ISO infrastructure was upgraded to ensure scalability and reduce costs by moving to new hardware and operating system.

In June 2016, EUI supported the extension of the BoE's operation hours for its Real Time Gross Settlement System (RTGS). Changes were made to the CREST operating day and daily diary to support an extension of the RTGS operating hours. EUI also made available a CREST screen for settlement banks to review liquidity projections.

Migration of the cleared DBV business from legacy overnight DBV to the term DBV product was completed ahead of schedule on 7 September 2015. Once the migration of the cleared DBV business was completed the focus was then moved to the bilateral gilt DBV business. The migration of this section of the DBV business was completed on 3 October 2016, with 100% of the gilt DBV business now using the term DBV product. There are no plans to migrate the overnight equity DBV business across to the Term DBV product. The equity DBV business is a fraction of the gilt DBV business in EUI and based on our communication with clients they will continue to transact equity DBV business overnight using either Term DBV or overnight DBV functionality.

November saw the business launch of the new open inventory sourcing (OIS) service, which links EUI to Euroclear Bank's collateral management service by automating movements to the relevant account to facilitate mobilising collateral for use outside the CREST system.

In the latter part of 2016, EUI will continue to work on a variety of projects that will support CSDR compliance, EUI will also upgrade corporate action ISO messages in line with DTCC requirements to support our International service and will also finalise the move of its billing system to a new technology, ready for release in Q1 2017.

3. Principle-by-principle summary narrative disclosure

Ratings summary

Assessment category	Principles
Observed	1,2,3,4 (in relation to GBP and EUR), 7 (in relation to GBP and EUR), 8, 9 (in relation to GBP and EUR), 10, 11, 12, 13, 15, 16, 17, 18, 19, 20, 21, 22 and 23
Broadly observed	4 (in relation to USD), 7 (in relation to USD) and 9 (in relation to USD)
Partly observed	-
Not observed	-
Not applicable	5, 6, 14, 24

Principle 1: Legal basis

An FMI should have a well-founded, clear, transparent, and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Key consideration 1

The legal basis should provide a high degree of certainty for each material aspect of an FMI's activities in all relevant jurisdictions.

Material aspects of EUI's activities include: dematerialised holding and transfer of title to securities, transfer/discharge of payment obligations, arrangements for achieving delivery versus payment, finality of settlement, services relating to dematerialised securities holding and transfer (including corporate actions and collateral transfers) and default arrangements.

EUI provides services in respect of domestically held UK, Irish, Jersey, Guernsey and Isle of Man securities, in accordance with the legal framework described further below. Where these securities are issued by non-domestic entities (such as in relation to depository interests and covered warrants), EUI obtains legal opinions confirming the ability of the issuer to issue such securities or in relation to the validity of such depository interest arrangements.

EUI also provides settlement services in relation to a range of international securities (meaning those other than UK, Ireland, Jersey, Guernsey and Isle of Man), through links with CSDs in Belgium (Euroclear Bank SA/NV), New York (DTCC) and Switzerland (SIS). EUI has obtained legal opinions in relation to the operation of these links.

EUI's participants are located primarily in the UK, Ireland, Jersey, Guernsey and the Isle of Man. Participants are also located in a number of other jurisdictions. Participant location is relevant in particular in relation to validity and enforceability of their participation in EUI's activities. For participants from non-UK jurisdictions, EUI obtains legal opinions in relation the validity and enforceability of the participant's participation.

The legal basis for EUI's activities is contained in: a number of statutory provisions in the relevant jurisdictions, including primary legislation and regulations; rules and guidance made by the Bank of England; rules and guidance made by EUI under the relevant statutory provisions; and contractual agreements between EUI and its participants. Primary oversight of EUI's activities is carried out by the Bank of England.

In relation to statutory provisions, EUI is:

- a Recognised Clearing House under the UK Financial Services and Markets Act 2000 (FSMA), subject to FSMA, the Financial Services and Markets Act 2000 (Recognition Requirements for Investment Exchanges and Clearing Houses) Regulations 2001 and rules made by the Bank of England under FSMA
- an approved Operator of a relevant system under the UK Uncertificated Securities Regulations 2001 (the UK USRs) subject to the UK USRs and rules made by the Bank of England under the USRs. It is also an Operator, under provisions equivalent to the UK USRs, in Ireland, Jersey, Guernsey and the Isle of Man, regulated by the relevant authorities in those jurisdictions (oversight is subject to cooperation arrangements with the UK authorities)
- a recognised inter-bank payment system under the UK Banking Act 2009
- a designated system for the purposes of the UK Financial Markets and Insolvency (Settlement Finality) Regulations 1999. EUI is separately designated under equivalent Irish law provisions.

EUI is also an Approved Reporting Mechanism for transaction reporting purposes under FSMA.

Rules, procedures and contractual provisions are contained in the CREST Manual (which includes the CREST Rules) and the CREST Terms and Conditions (or other equivalent terms and conditions) which are exclusively governed by English law.

The material aspects of EUI's activities are governed by the statutory and contractual arrangements detailed above. The legal framework provides a clear, broad, detailed and coherent basis for the material aspects of EUI's activities in the relevant jurisdictions.

CREST settlement bank security charges and their realisation are subject to provisions in Part VII of the Companies Act 1989 (Part VII) (specifically section 173- 176), the Financial Markets and Insolvency Regulations 1996 (made under sections 185 and 186 of the Companies Act 1989) and the Financial Markets and Insolvency (Settlement Finality) Regulations 1999, which modify the general law of insolvency, rendering certain insolvency law provisions not applicable.

Key consideration 2

An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.

EUI's rules, procedures and contracts are publicly available. Systems and services are described in detail in the CREST Manual. Significant amendments will be subject to consultation with

participants and regulators, giving the opportunity for input in relation to clarity and understanding.

New and amended statutory provisions are monitored and analysed by internal and, where appropriate, external lawyers acting for EUI. Relevant authorities will generally liaise with EUI before making or amending provisions that directly relate to EUI. Rules, procedures and contracts (and any amendments to them) are drafted and reviewed by internal lawyers acting for EUI, as well as external lawyers, where appropriate.

As noted above, legal opinions are obtained in relation to the participation of entities located outside the UK. Also as noted above, legal opinions are obtained in relation to EUI's international links.

Material changes to EUI's rules, procedures and contracts will be discussed with, and reviewed by, the Bank of England (and relevant authorities from Ireland, Jersey, Guernsey and Isle of Man, where appropriate). Certain material changes are also subject to express statutory notification obligations.

Key consideration 3

An FMI should be able to articulate the legal basis for its activities to relevant authorities, participants, and, where relevant, participants' customers, in a clear and understandable way.

As noted above, EUI's rules, procedures, tariff and contracts are publicly available. Systems and services are described in detail in the CREST Manual (and other information which is available on my.euroclear.com).

The legal basis for EUI's activities is provided by EUI through the publication of this Disclosure Framework Report and an International Standard on Assurance Engagements (ISAE) No. 3402. (ISAE3402 Report).

Key consideration 4

An FMI should have rules, procedures, and contracts that are enforceable in all relevant jurisdictions. There should be a high degree of certainty that actions taken by the FMI under such rules and procedures will not be voided, reversed, or subject to stays.

The basis for the high degree of certainty of the legal basis for EUI's material activities is set out above. This legal basis, including the contractual provisions with EUI's participants, ensures a high degree of certainty regarding the enforceability of EUI's arrangements. As noted above, additional support is provided through legal opinions obtained in relation to participants located outside the UK and in relation to EUI's international links.

Finality of settlement of transactions (securities and payments transfer orders) and EUI's default arrangements (which include the arrangements supporting CREST settlement banks' enforcement of their collateral security) are protected from the adverse impact of insolvency laws pursuant to EUI's designation under settlement finality provisions of UK and Irish law (in relation to settlement finality designation, see further below under Principle 8).

In relation to the participation of US settlement banks in EUI's payment arrangements, legal opinions have been obtained by EUI (in conjunction with the Bank of England and the Central Bank of Ireland), which confirms that US insolvency provisions are unlikely to prevent orderly completion of settlement activity on the insolvency of a US settlement bank.

EUI is not aware of any court of any relevant jurisdiction that has held its activities or arrangements to be unenforceable.

Key consideration 5

An FMI conducting business in multiple jurisdictions should identify and mitigate the risks arising from any potential conflict of laws across jurisdictions.

As noted above, in relation to participants from outside the UK, EUI obtains legal opinions in relation to the validity and enforceability of its arrangements. This provides an opportunity for any potential conflicts or other issues to be identified and analysed. If material conflict of laws issues are identified, this could lead to participants not being accepted by the jurisdiction concerned.

Also as noted above, in relation to EUI's international links, legal opinions are obtained in relation to the arrangements. This provides an opportunity for any potential conflicts or other issues to be identified and mitigated as necessary in the legal arrangements for those links and with EUI's participants.

Principle 2: Governance

An FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI, and support the stability of the broader financial system, other relevant public interest considerations, and the objectives of relevant stakeholders.

Key consideration 1

An FMI should have objectives that place a high priority on the safety and efficiency of the FMI and explicitly support financial stability and other relevant public interest considerations.

The objectives of the Euroclear group are published on my.euroclear.com. The main strategic objective of the Euroclear group and EUI is to be one of the leading providers of post-trade services through reliability, innovation and leadership by:

- building long-term partnerships with clients
- supporting the stability and developments of the markets, locally or globally

Within this framework, the EUI Board has the requisite autonomy and authority to effectively manage the company's interests when implementing the group strategy decided by the ESA Board.

EUI benefits from the pooling of investments within a larger group, the ability to develop new services and maintain new products leveraging the expertise of the group with the objective of meeting the needs of the market where they operate.

The Boards of EUI and Euroclear plc (Eplc)/Euroclear SA/NV (ESA) are responsible for assessing their respective performance in meeting their objectives. In addition, the Management Committee of ESA also assesses the performance of EUI as a group entity.

The group has established high standards of professional conduct that direct the ongoing activities of the group. These standards are formalised in various policies and procedures applicable to employees, senior management and Directors across the group.

The group's shares are largely owned by users of its services and its main boards (Eplc and ESA boards) are essentially composed of members drawn from a cross-section of firms that use the Euroclear services, allowing users' interests and sensitivities to influence the decision-making process of Euroclear. In addition, independent directors not affiliated with firms using the group's services have been appointed to each of the Boards of Eplc, ESA and EUI, to allow for the interests of stakeholders other than users to be represented. Users can also influence the group decision-making bodies through the Market Advisory Committees, which are committees established by the group for each country where an entity of the group acts as CSD.

Key consideration 2

An FMI should have documented governance arrangements that provide clear and direct lines of responsibility and accountability. These arrangements should be disclosed to owners, relevant authorities, participants and, at a more general level, the public.

The current structure of the Euroclear group is presented on my.euroclear.com.

EUI is the one of the CSDs of the Euroclear group and is incorporated under English Law. EUI is a wholly-owned subsidiary of Euroclear SA/NV, a Belgian financial holding company regulated by the National Bank of Belgium (BNB).

ESA acts as the group service company, providing shared services to other group companies, the arrangements of which are set out in the 'Shared Services Agreements'. Services centralised in ESA are: IT production and development, HR, audit, legal, financial, risk management, compliance, sales and relationship management, product management, strategy and public affairs.

EUI's governance arrangements are clearly specified and information regarding them is publicly available in the Euroclear group annual report. EUI publishes information about the company, its services and its strategy on my.euroclear.com (for example, Board and Board Committees composition and terms of reference, ISAE 3402, and CPMI-IOSCO Disclosure Framework)

Key consideration 3

The roles and responsibilities of an FMI's board of directors (or equivalent) should be clearly specified, and there should be documented procedures for its functioning, including procedures to identify, address, and manage member conflicts of interest. The board should review both its overall performance and the performance of its individual board members regularly.

The Board has the powers to carry out all acts that are permitted under the Articles of Association, except those that are explicitly reserved by law or the Articles to the shareholders. In carrying out this role, each Board member acts in good faith in the way he or she considers would be most likely to promote the success of EUI for the benefit of its shareholders as a whole, while having due regard to the interests of other stakeholders (such as customers, employees and suppliers). The Board also has regard to the interests of the group.

The primary responsibilities of the Board are to define the strategy of EUI and supervise EUI management. The main responsibilities and operating procedures of the Board have been defined in the Articles of Association, the Board terms of reference and the Board Reserved Powers Schedule, available on my.euroclear.com.

To perform its responsibilities more efficiently, the Board has established the following committees: the Audit and Risk Committee (to be split into two separate committees under CSDR), the Nominations, Remuneration and Governance Committee and the Executive Committee.

The **Audit and Risk Committee (ARC)** assists the Board in fulfilling its responsibilities for:

- oversight of the quality and integrity of the accounting, auditing and reporting practices of EUI
- the effectiveness of internal controls and risk management systems
- the independence, accountability and effectiveness of the External Auditor
- risk management governance structure, including policies
- risk tolerance, appetite and strategy
- management of key risks as well as the processes for monitoring and mitigating such risks
- such other duties as directed by the Board of Directors
- The Committee includes three independent non-executive directors.

The **Nominations, Remuneration and Governance Committee (NRGC)** assists and advises the Board of Directors in all matters in relation to the nomination and remuneration of Board and Executive Committee members, Board and Committee composition, succession planning as well as corporate governance matters as they apply to the Company.

The **Executive Committee (ExCo)** is charged with discharging the obligations delegated to it by the Board, including the day-to-day running of the business. Arrangements are in place to support and assist the ExCo in its consideration of, for example, EUI's risks and local roadmap priorities.

EUI employees, senior management and Board members must follow specific guidelines in order to identify and prevent any conflicts of interest and, in the event it is not reasonably possible to avoid a conflict of interest, to properly manage such a conflict.

On an annual basis, the board of EUI carries out a self-assessment and effectiveness review of the Board and its members. This review aims to ensure that the Board has the necessary framework in place within which to make decisions, focusing on:

- Board role and responsibilities including clarity of goals and processes
- Board composition, logistics and dynamics including the optimum mix of skills and knowledge among the directors
- Effective interaction between the board, committees, management and the chair, including a culture of openness that encourages constructive debate

This annual review is carried out by completion of a questionnaire by each Board member.

The consolidated responses of the self-assessment are reviewed by the Nominations, Remuneration and Governance Committee, and the results are reported to the Board for discussion. Any concerns that are raised in the responses are subject to appropriate follow-up actions.

Key consideration 4

The board should contain suitable members with the appropriate skills and incentives to fulfil its multiple roles. This typically requires the inclusion of non-executive board member(s).

In accordance with English law and the Articles of Association, Board members are appointed either by ordinary resolution of shareholders, by a decision of the directors or by a notice of appointment by majority shareholders. EUI's board and board committee composition policy governs to composition of the board and committee. The composition of the Board shall be considered in the context of the requirements of the business of the Company at a given point in time including prevailing legal and regulatory considerations.

To adequately fulfil its role and responsibilities, the Board as a whole should possess the necessary balance of skills, experience and independence. The Board is responsible for defining the strategy and objectives of the Company and for supervising management in the implementation of such strategy and objectives, including scrutinising and monitoring performance of management. The skills that should be represented on the Board are both generic and specific to the business of the Company. All nominations to the Board are made:

- against merit, based on objective criteria defined by the Board;
- on the basis of a Director's potential contribution in terms of knowledge, experience and skills;
- with a view to ensuring a balanced Board;
- actively taking all aspects of diversity into account.

The EUI Board is composed of the Chief Executive of EUI, the Chairman, the ESA Head of Strategy, and independent non-executive directors. The EUI Board has a strong unit of independent directors, in line with regulatory and legal requirements. The Board and Board Committee composition of EUI is posted on my.euroclear.com. The overall membership of the Board and Board Committees is regularly reviewed by the Nominations, Remuneration & Governance Committee, with a view to ensuring the Board remains appropriately composed.

Non-executive directors (who are not members of the group management) receive remuneration for their mandate, taking into account their level of responsibility and time required of them in fulfilment of their Board role. It comprises an annual gross fee and reflects any additional formal responsibilities held.

Non-executive directors (who are not members of the group management) do not receive incentive compensation (short or long-term), stock options or employment benefits (other than reimbursement of expenses). Their remuneration is not linked to the performance of EUI.

Key consideration 5

The roles and responsibilities of management should be clearly specified. An FMI's management should have the appropriate experience, a mix of skills, and the integrity necessary to discharge their responsibilities for the operation and risk management of the FMI.

The EUI Executive Committee (ExCo) has been established by the Board and has been entrusted with the general management of EUI, with the exception of (i) the determination of the strategy and general policy of the Company and (ii) the matters set out in the Reserved Powers Schedule. The ExCo acts in accordance with applicable law and the rules set out in the Articles and its terms of reference and under the supervision of the Board.

The ExCo reports directly to the Board and, where it concerns an area within the remit of the Board committees, to the Board's specific committees, which in turn report their analysis on the same to the Board.

The objectives of the CEO are approved by the Board and the objectives of the ExCo are approved by the CEO and communicated to the Board.

The ExCo carries out a biennial self-assessment designed to ensure the ongoing effective functioning of the committee.

The ExCo is composed of the CEO, the Chief Operating Officer, the Head of CEO office and the Company Secretary (non-voting member). In addition, the CEO with approval of the Chairman of the Board shall appoint relevant representatives of Euroclear SA/NV divisions to be non-voting members of the ExCo.

In addition, the ExCo as a whole should possess the necessary balance of skills and experience to fulfil its role and responsibilities.

The roles and responsibilities of management are set out in individual job specifications.

Key consideration 6

The board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies. Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the board.

The Management Committee of the Euroclear group actively supports the development and maintenance of a strong internal control system (ICS) within the group. EUI is subject to the ICS. In line with best market practice, EUI operates a 'three lines of defence' model.

An extensive policy framework exists for Risk Management and Compliance. Internal Audit has an Audit Charter approved by the Board and is reviewed yearly. The Risk Management, Compliance and Internal Audit Divisions are independent from the business lines they monitor through a direct reporting line to the CEO and through direct access to the chairman of the relevant Board committees (ESA and EUI Boards and audit and risk committees).

The risk management framework is documented through a comprehensive set of policies, management resolutions and implementing procedures. The framework and all high-level policies including the risk management policies are decided by the Board.

The accountability for risk decisions is distributed at all levels of the group. Strong crisis procedures are also in place, allowing quick escalation at entity or group level, depending on the nature and the severity of the crisis. Those procedures are regularly tested.

The risk management framework is described in more detail under principle 3.

The mission of the group Internal Audit Division ('IA') is set out in the IA Charter approved by the group's Management Committee (MC) and Board Audit Committee (AC), as providing reasonable assurance, in an independent and objective way, on the adequacy and effectiveness of the group's system of internal controls to support the Board and senior management in reaching their objectives.

The ESA Internal Audit Charter describes IA's purpose, authority and responsibility. The Charter stipulates that the group Chief Auditor should report to a level within the organisation that allows IA to fulfil its responsibilities, with proper independence in determining the Audit Universe, Audit Plan and scope of audit reviews, performing work (through an unlimited access right to all records and data of the company), and communicating results.

IA is organisationally independent from any operational or business activity. The Chief Auditor reports to the CEO of the group. The independence of IA is further ensured by an additional reporting line to the Chairman of the AC. The Chief Auditor has direct access to the Chairman and members of the AC, the Chairman of the Board of directors, and the accredited statutory auditors. There is one local auditor covering EUI, and reporting to an audit manager at group level.

To carry out its mission, Internal Audit has set up a comprehensive audit universe including all processes carried out by the group, whether directly or outsourced. The Audit Plan covers the full audit universe and is presented quarterly for approval by the MC and AC. The Audit Plan is the result of:

- a risk and control based approach: each line of the audit universe is assessed quarterly, which drives the depth and scope of audits
- a cyclical approach: even though the results of the risk and control assessments would not lead to a full scope audit, such a full scope is anyway performed every three years

The Audit Plan focuses on the next quarter but has a six-quarter time horizon.

Such a frequent and comprehensive plan process ensures that the Audit Plan remains commensurate to the risk profile of the company and focuses on the areas presenting the highest risks or being heavily control dependent.

Issues identified by Internal Audit are entered into the risk database used at Group level. In line with the Institute of Internal Auditors standards, Internal Audit performs the follow-up and verification of the issues it raises.

EUI management and the Audit and Risk Committee are periodically informed of the adequacy and effectiveness of the internal control system through the quarterly IA activity report, which covers the progress on the internal audit plan, the results of audit work (including concerns regarding the effectiveness or timeliness of management's actions to address audit issues), and resourcing. In addition, IA sends any communication, audit memos and reports it deems necessary, directly to management members; the High Priority Control Issues (HPCI) report is made quarterly to highlight significant control issues as well as progress in mitigating them.

IA also has regular meetings with external auditors. Audit reports are communicated to these stakeholders upon request.

Key consideration 7

The board should ensure that the FMI's design, rules, overall strategy, and major decisions appropriately reflect the legitimate interests of its direct and indirect participants and other relevant stakeholders. Major decisions should be clearly disclosed to relevant stakeholders and, where there is a broad market impact, the public.

Identification and consideration of stakeholder interests

The user governance framework of EUI ensures that the interests of participants and other stakeholder are taken into accounts in the CSDs' design, rules, overall strategy and major decisions. Users can also influence the group decision-making bodies through the Market Advisory Committees. These committees act as a primary source of feedback and interaction between the user community and EUI management on significant matters affecting the market.

Users and other stakeholders can also influence the group's decision bodies by participating in ad hoc working groups and committees, international groups (European Repo Council, ISMA, IPMA) or through ad hoc consultations.

EUI operates a number of external market facing committees, such as the Settlement Bank Committee, Stock Events Working Group and the Funds Market Advisory Committee Subgroup.

In accordance with the provisions of the agreements that EUI has entered into with participants, the introduction of material new functionality, the use of which will not be optional, and material changes to existing functionality will only be made after prior consultation. The consultation procedures adopted depend on the nature of the change, but involve one or more of the following:

- consultation by means of my.euroclear.com and Operational Bulletins, describing the issue and inviting responses by a particular date
- consultation by means of the publication of an EUI 'Green Book' or 'White Book'. These are distributed widely and are available on my.euroclear.com
- consultation through the establishment of working parties and liaison groups involving CREST participants who, in EUI's view, fairly represent the principal types of participant likely to be affected by the issue concerned

Major decisions are communicated to owners (user shareholders) through the 'Notice to Shareholders' for the annual general meeting and for each extraordinary general meeting. They are communicated to the users (participants) via the commercial account officers and through various publications (such as Newsletters) and through user representatives in regular meetings of the MACs.

Principle 3: Framework for the comprehensive management of risks

An FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational, and other risks.

Key consideration 1

Our Enterprise risk management framework

Our Enterprise Risk Management (ERM) framework is the methodology designed by the Risk Management division, approved by the EUI board and implemented and operated by Senior Management that helps the company manage risks in a structured way. This contains the process for identification, measurement, respond and monitoring of risks. The ERM framework also builds on key pillars including amongst others the risk governance arrangements, our risk culture and our risk appetite framework.

EUI's strategy, goals and risk appetite are inextricably linked with, and central to, the ERM framework. However, it is important to highlight that our culture also has a significant influence on our attitude towards risk and how it is managed. Our positive and collaborative culture, underpinned by our REACH values and willingness to constructively challenge, is critical in supporting risk-aware behaviours and embedding effective risk management in everyday activities and processes across Euroclear group.

The ERM framework is being laid down via several policies and handbooks, also supported by guidelines and standard operating procedures across the business lines. These all together form the integrated ERM Framework of EUI.

As mentioned in Principle 2, Euroclear group is continuously improving its risk management framework. This effort includes among others the enhancement of our policy framework structure and content. This is to ensure that we are keeping pace with the changing regulatory and market environment.

Risks that arise in or are borne by the FMI

The Euroclear group has established a Risk Register, which contains six risk categories the group is faced with.

Three categories relate to the provision of services:

- Credit risk: the risk of loss (direct or contingent) arising from the failure of a counterparty to meet its obligations to Euroclear
- Liquidity risk: the risk of loss (financial or non-financial) arising from Euroclear being unable to settle an obligation for full value when due. Liquidity risk does not imply that Euroclear is insolvent since it may be able to settle the required debit obligations at some unspecified time thereafter
- Operational risk: the risk of financial and reputational loss from inadequate or failed internal processes, people and systems. It encompasses processing risk, accounting risk, ethical conduct, legal and compliance risk, people risk, project risk and information and system risk)

Three other categories are related to the environment in which Euroclear operates:

- Market risk: the uncertainty on future earnings and on the value of assets and liabilities (on or off balance sheet) due to changes in interest rates, foreign exchange rates, equity prices or commodity prices
- Business risk: the risk of revenues being different from forecast as a result of the inherent uncertainty associated with business planning over a two-year time horizon or of unanticipated changes in the nature or level of market activity serviced by Euroclear
- Strategic risk: the risk of the business model not being appropriate to deliver the corporate vision as a result of restrictions in the ability to implement internal change, external changes in the environment in which Euroclear operates or the inherent uncertainty associated with business planning over a medium to long term horizon

Of these categories, EUI is mainly exposed to operational risks, strategic risks (for example the market can undergo unexpected or rapid changes, which could invalidate our business model, e.g. as a result of financial crises, regulatory changes or for other reasons) and business risk (for example due to changed business volumes, increased competition, changed market behaviour).

Risk management policies, procedures and systems

Euroclear group uses an Enterprise Risk Management (ERM) framework to ensure a coherent approach to risk management. It covers both the day-to-day risk/control processes as well our approach to ensure risks managed to achieve our strategic objectives.

The ERM has the following key content-related components:

- we have well developed frameworks and comprehensive policies based on good market practices that set out how risks are managed consistently. The policies that govern these frameworks are documented and part of a well-defined ERM framework
- we have established a Risk Register, which is an inventory of all types of risks that the Euroclear group is facing, with six key risk categories. This register is used as input to build or verify the control objectives which the business has to fulfil
- the Internal Controls System is an integral part of the ERM and has defined High Level Control Objectives (HLCOs) and more detailed Control Objectives to mitigate the risks of the Risk Register

The ERM framework is composed of the following key pillars, inter-related building blocks, that cater for a consistent approach to the management of risks:

- Strategy – our corporate strategy
- Risk appetite framework – our approach to risk capacity and risk appetite in order to achieve our strategic objectives
- Culture - refers to, amongst other things, our attitude towards risk and opportunity, our level of risk awareness, how we take decisions and how responsibility and accountability are defined
- Governance - assigning responsibility and authority

- Identification, Assessment and analysis - Understanding the risks; analyse the risks to confirm their significance, understand which objective(s) they might impact and assess how they might manifest themselves.
- Risk Response and Control - select one or more risk response strategies to address the risk.
- Monitoring and Reporting - getting the right information to the right people at the right time supported by the right governance
- Monitoring Processes - assessing the effectiveness of the risk management strategies.

Picture 3 – Overview of the ERM



Risk Identification

In line with best market practice, we operate a three lines of defence model. The allocation of responsibilities within our three lines of defence model is:

- first line of defence: the businesses identify the risks that may prevent reaching their objectives, define and operate controls to mitigate the risks and document and demonstrate the control environment.
- second line of defence: Risk Management establishing, maintaining, facilitating and assessing the effective operation of EUI's ERM framework ; it monitors the Risk and Internal Control environment in the changing internal and external environment and reports, challenges or escalates to management risks or control defects. Risk Management supports the business to implement remedial actions. Risk Management also provides risk trainings to facilitate the embedding and maintenance of risk awareness. Compliance monitors, tests and reports to management on controls relating to compliance with laws and regulations and advises on remedial actions. Other support functions like Finance or Human Resources monitor specific controls and escalate to management in case of control defects.
- third line of defence: Internal Audit independently reviews and tests the controls and reports to management about the adequacy and effectiveness of the control environment.

We encourage the proactive identification of risks and control weaknesses, as opposed to the reactive logging of risks. Key techniques and processes that facilitate this are:

- the periodic (daily to quarterly) monitoring of key risk and key performance indicators (KRIs and KPIs) by team leaders, Department Heads, Division Heads, committees and Management Committees
- the systematic risk assessments associated with the new product or service approval process
- Annual Risk and Control self-assessment
- Risk Management recurring Risk assessments

Also, we record all incidents and performs a post-mortem exercise to identify root causes and put in place measures to avoid recurrence.

Risk Analysis

Euroclear group has developed an assessment and rating methodology for risks, which enables risks to be classified according to their impact on the relevant business areas of EUI. In addition, consideration is given to identify root causes of the risks, how risks might link to other risks and prioritizing risk treatment. Risks are assessed (e.g. in risk workshops) and are recorded in the common system (I-Track).

Respond

Following prioritisation, management selects one or more risk response strategies to address the risk. The chosen strategies help management define the types of controls that might be needed to bring the risk to a target residual risk level. The four main risk response strategies are:

- Avoid – avoid or prevent the risk by tackling the root cause
- Mitigate – mitigate the risk by introducing controls that reduce risk likelihood, impact or both (including contingency controls)
- Accept – decide that the risk is tolerable
- Transfer – transfer the risk to a third party, typically through insurance

Based on the chosen response strategies and prioritisation, management prepares action plans (which are captured in the central risk database, I-Track) for the design and implementation of appropriate controls to bring the risk to the target level over a defined period of time. Action plans include details of the action plan, the owner, target dates. Controls associated may be preventive, detective or corrective (including containment).

Monitor and report

We monitor and report key risk information in a format and context that makes it readily understandable and relevant to the user of the information. Risks are primarily managed by the first line of defence and are reported at the relevant governance body at the appropriate time.

Monitoring is supported by the periodic review of key performance indicators (KPIs) and key risk indicators (KRIs) by the different first line teams, specific control teams (e.g. in Finance). The results of the monitoring are cascaded upwards to process owners, department heads, committees and management.

Risk Monitoring through self-assessments:

The control objectives are the basis of the annual Risk & Control Self-Assessments (RCSAs). The qualitative self-assessments are key components of the ERM framework. The RCSAs aim to achieve the following objectives:

- build an accurate and consistent assessment of the Internal Control System (ICS), i.e. to achieve a good understanding of the risk profile of the business
- increase risk awareness and promote an ongoing assessment of risks and controls by business managers
- identify new risks by bringing together experts and less experienced people in brainstorming sessions
- obtain quantification of the risks faced by EUI at 'risk category level', service level and entity level
- ensure that individual risks in the ICS are identified proactively and that they are addressed adequately
- help management make a well-founded statement on the effectiveness of the ICS.

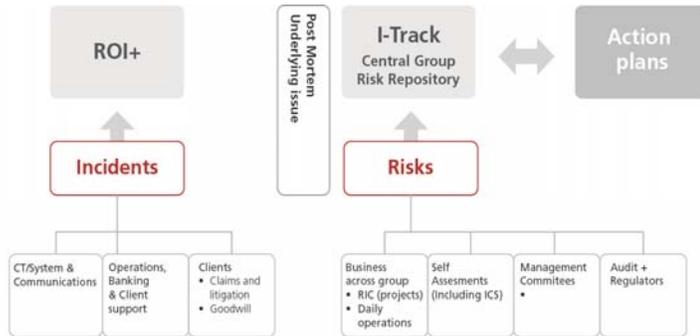
Internal Control System (ICS) reporting:

Risk Management consolidates and summarises the results of these self-assessments, discusses them with management and reports them to the Audit and Risk board committee and to the Board in the form of the Internal Control System report.

Supporting systems

We use the ERM framework to manage its risks. The group also has a common central risk repository called "I-Track" where risks are recorded and followed up. It allow EUI to track its range of risks that have been identified proactively by the business but also through incidents, controls and risks identified, by risk management or, by the internal audit. The database contains risk owners, all action plans and their owners, the assessment and history of risk mitigation or acceptance. Each identified risks is rated considering the severity and the likelihood in order to facilitate the prioritisation of mitigating actions.

Incidents are recorded in a central database called 'ROI+' which is linked to the 'I-Track' database.



Aggregation of exposures

The main risk type for EUI is operational risk. Operational risks as such are not aggregated in the same way as credit risk can be aggregated for a bank, but the framework in place allows us to track our full range of risks and to present a consolidated view of the risks to management, risk committees and the Board.

Effectiveness of the risk management policies, procedures and systems

The effectiveness of the actual measures in place is assessed in first place by first line (business owner). This is done using key performance indicators (KPIs) and key risk indicators (KRIs) by the different first line teams and the, control teams embedded in the 1st line . The results of the monitoring are cascaded upwards to Process owners, Department Heads, Division Heads, committees and Management Committees. Any deviations are highlighted, investigated and policies and processes are adjusted if necessary.

We also conduct annual risk and control self-assessment (RCSA), where all departments and functions are assessing themselves against the business objectives, the given control objectives, and reports on any control gaps, risks or shortcomings. The outcome of these are reported in the PARs, in the Assurance maps and in the yearly Internal Control System assessment.

This process is done also for risk management and compliance functions. In addition, the 2nd line (risk management and compliance functions) and the 3rd line of defense provides its view in particular on the controls in the Assurance maps that are feeding to the yearly Internal Control System assessment.

The effectiveness of crisis management and business continuity plans is also regularly tested. Crisis management rehearsal exercises via desktop or simulation exercises are organised to train the crisis managers and test the crisis management procedures. Several of these exercises are organised each year, as standalone activities or combined with the other activities. Material findings and actions for improvement are captured in the standard flow of problem management and issue tracking, which guarantees the follow-up (root cause analysis, tracking of solutions and/or agreed actions).

Reports on Risk Management effectiveness are presented to the governing bodies including the Board.

Finally, Risk Management functions and risk management arrangements are regularly audited by Internal Audit, which provides a reporting to the governing bodies including the Board on the effectiveness of the risk management at EUI and the effectiveness of the Risk Management function.

Review of risk management policies, procedures and systems

Our Risk Management division is managed by Euroclear SA/NV (ESA) in order to ensure a consistent risk-management approach across all entities. Many policies will apply to the whole group, while others are specific to a EUI (e.g. local regulation or technical implementations). However, the covered processes and principles are quite similar:

- the Board is responsible for approving (risk-management) 'policies'

Local management is responsible for approving policy handbooks which capture the way we implement the board policies the handbooks are supported by standard operating procedures and guidelines which are either at divisional or department level or could be across divisions.

When developing these policies, the Boards and Management Committees are assisted by specific committees. The ESA Board is advised by the Risk Committee, which also makes recommendations with regard to the approval or revision of risk policies. The ESA Management Committee is advised by the group Risk Committee. In addition to the support from ESA's risk management, the EUI Board is advised by its Audit and Risk Committee. The EUI Management Committee is supported by the Risk and Operating Committee (for operational risks). These committees may propose policy changes if required.

Review frequency

Our Enterprise Risk Management framework is subject to regular review. In the policies the board set out its risk management expectation towards EUI (including among other risk

appetite, risk culture). The policies are being updated when changes in our business, or the market and regulatory environment evolution requires us to do so.

The supporting policy handbooks are revisited similarly as often as is required. The triggering event for a revision could be driven by similar reasons as for a policy, or could be that there are organizational, procedural etc. changes which necessitates this.

Key consideration 2

An FMI should provide incentives to participants and, where relevant, their customers, to manage and contain the risks they pose to the FMI.

EUI provides extensive information regarding the operation of its systems and services, as well as training and client support. EUI's systems and services have been specifically designed to enable participants to monitor, manage and reduce risks they face, including through Delivery versus Payment operation, credit and liquidity control mechanisms, secured credit monitoring tools, collateral services, extensive real-time system information that allows the participants to manage and contain their risks from participating in the system. This information contains, among others, data on the participant's transactional, cash and securities positions, credit usage, collateral position and secured credit. Contracts, rules and procedures enable EUI to minimise the impact to the CREST system and other participants following the default of a participant.

System developments to central bank money functionality and Term DBV functionality have allowed infrastructure to improve liquidity efficiencies and reduce system risk with no detrimental impact to the underlying settlement activity.

EUI has a 'non-standard CREST closure' procedures to allow the infrastructure and clients to manage a disorderly close to the operational day.

EUI has annual liquidity recycling mode ('Top Up, Draw Down') and realisation testing, to allow Settlement Banks and participants to practise their own risk management scenarios.

EUI has no contractual relationship with the underlying customers of its participants. The contractual relationship remains exclusively between EUI and its participants.

Key consideration 3

An FMI should regularly review the material risks it bears from, and poses to, other entities (such as other FMIs, settlement banks, liquidity providers, and service providers) as a result of interdependencies, and develop appropriate risk-management tools to address these risks.

Material risks

The risks that EUI bears from, and poses to, other entities are operational risks. They are identified within the ERM framework as with other risks, for example, by project or service risk assessments, or by annual risk self-assessments.

The risks posed on EUI from other entities (such as CCPs, other CSDs, large participants, settlement bank, Target2, network providers and data providers) are more to the efficiency and functionality of the system, rather than actual risks to EUI.

Risks posed to EUI from other entities are, for example:

- risk of lower settlement ratio if one or several significant participants make operational errors (for example, sends wrong instructions) or cannot deliver their instructions in time
- risk to settlement ratio and completeness if major infrastructure players in the financial sector are down, like the central bank or a CCP
- risk to the general market stability and risk of delays or losses to other participants and investors if a participant defaults (but not, per se, any particular risk to the CSD).

The risks that EUI poses to other entities are also operational.

A long system standstill or severe technical or operational error could cause substantial delays, losses or liquidity issue to participants or their customers.

To mitigate this, EUI has implemented many layers of precaution and protection of its processes and services (business continuity plans regularly tested), and operates a comprehensive risk management framework built on established standards and best practices. Specific risks in the context of CSD links are described under principle 20.

Risk measurement and monitoring

The same risk management procedures and processes as described above under Key consideration 1 apply to our assessment of risks from other entities.

These include:

- Business Risk assessments (including the new product approval risk assessments)
- Stress tests such as business continuity tests and default procedure tests
- 1st-line and 2nd-line monitoring activities
- Other specific initiatives on specific risks, such as the 'Long-term IT outage' analysis
- Incident analysis and availability follow-up

Risk management tools

The same procedures and processes as described under Key consideration 1 above apply to risks arising from interdependencies with other entities.

The effectiveness of the actual measures in place is assessed in first place by 1st-line and 2nd-line monitoring activity.

In addition, real-life incidents events, such as operational incidents or a real default of a participant, can prove whether the policies and systems are effective in real-life stress situations.

The risks other FMIs pose to EUI are identified and assessed as part of the ERM framework. As described in Key consideration 1, EUI maintains a risk register that is regularly reviewed and includes risk posed to and by FMIs.

A summary of risks from the risk register detailing all interdependencies with other FMI's will be reviewed by the Executive Committee at the quarterly ExCo & Risk Committee meeting.

Key consideration 4

An FMI should identify scenarios that may potentially prevent it from being able to provide its critical operations and services as a going concern and assess the effectiveness of a full range of options for recovery or orderly wind-down. An FMI should prepare appropriate plans for its recovery or orderly wind-down based on the results of that assessment. Where applicable, an FMI should also provide relevant authorities with the information needed for purposes of resolution planning.

Recovery Plans

Recovery, restructuring and orderly wind-down plans are key elements of regulatory and industry efforts to mitigate the consequences for banks, financial market infrastructures and governments of a future potential financial turmoil, aiming to avoid the need for government / public support to be provided to failing institutions and to limit the potential contagion effect on the market of disorderly wind-down. For this reason and to ensure consistency, the plan for the orderly winding-down and/or restructuring of EUI has been integrated with the recovery plan into one single document, acknowledging that a plan for an orderly wind-down is not a substitute for having a comprehensive and effective recovery plan.

The purpose of a Recovery, restructuring and orderly wind-down plan is to provide the information and procedures necessary to allow an FMI to effect recovery such that it can continue to provide its critical services when its viability as a going concern is threatened. The plan is based on the presumption that any uncovered loss or liquidity shortfall will be borne by

the institution, its shareholders' and its participants' own resources. It does not assume any extraordinary form of state or central bank support. The plan also assist resolution authorities in preparing and executing their resolution plans for the institution.

EUI has prepared a Recovery, restructuring and orderly wind-down plan in line with regulatory expectations. The plans describes in detail a certain number of recovery, restructuring and wind-down options if applicable that eould take in order to restore its financial soundness after the occurrence of some scenarios in a reasonable and appropriate timeframe.

The EUI recovery plan is presented and approved by the Audit & Risk Committee and the Board of Directors annually.

Recovery scenarios

Euroclear retained plausible scenarios sufficiently severe and extreme to put at risk the going concern of any operating entity or of the group as a whole. These scenarios have been built around the specificities of the entities of the group including the various risks to which the institution is exposed. By threatening the viability of each entity, they also threaten the continued provision of critical functions to the market.

The scenarios should cover the major risks of the group as well as for each entity while respecting relevant regulatory requirements and expectations. With this in consideration, the selected scenarios are as follows:

Scenarios	Description and underlying assumptions
S01 Default of a major participant and/or market counterparty	The defaulting participant is one of EUI's largest clients. It defaults suddenly and unexpectedly on all its obligations to EUI and put EUI's going concern at risk following the failure in its role of a deposit holder for a proportion of the CSD's cash that is relevant.
S03 Fraud at an CSD or at ESA	<p>A Fraud event occurs and the CSD is defrauded of its deposited funds. This scenario assumes that controls related to payment authorisation have failed e.g. two authorised signatories colluded to defraud the CSD to circumvent the 4-eyes principle, and second, that the CSD does not benefit from the fraud insurance coverage as the insurer either defaults or is unwilling to indemnify.</p> <p>The failure (default) of the insurance provider would be a necessary factor in this scenario, as Euroclear's insurance coverage either exceeds or comes close to the total capital available in EUI, which in turn exceeds the maximum amount that could plausibly be defrauded.</p> <p>We have also looked at the potential impact of a fraud on corporate action proceeds paid (where such proceeds are paid in commercial bank money). There as well, the failure of the insurance provider would be a necessary factor to lead to material impacts.</p> <p>In addition, we also look at a possible fraud on corporate action</p>

Scenarios	Description and underlying assumptions
	<p>proceeds paid on securities held by the CSD for which cash is received on the EB account of the CSD. For the fraud to be successful would require a convergence of multiple control failures. We finally assess the potential impact of a fraud on stamp duty.</p>
<p>S05 Major operational incident</p>	<p>The group suffers a 5-days IT outage, which is caused by a technical issue (idiosyncratic event, markets are operating normally). Processing and reporting systems are not available, even in the backup locations as reflected in the business continuity plan. The disruption may be caused by either targeted attacks (or insider threats) such as intentional data corruption, malware or denial-of-service attacks or by unintentional failures/errors.</p> <p>As the CSDs have well-defined liability provisions and insurance coverage for service outages, for this scenario to have a material financial impact, EUI (or ESA) must (i) be negligent (both initially and in attempting to resolve the issue) or exhibit wilful misconduct and (ii) the insurance provider must be unable or unwilling to indemnify.</p> <p>An example for (ii) to be realistic would be in case EUI fails to maintain systems in accordance with explicit vendor specifications. Should Euroclear fail to disclose this weakness to the insurer (and the insurer discovers it), the situation could lead to failure of indemnification.</p>
<p>S06 Business Loss</p>	<p>Due to external factors EUI experiences a significant loss of revenue. As a high proportion of costs are fixed, the loss of business cannot be offset quickly by significant cost reductions. Based on the current pricing structure and group cost allocation, this would require EUI's fee revenues to drop significantly for it to make a loss and reach a recovery trigger within a 5-year time horizon. In practice, the CSD would still have some room for manoeuvre to adjust tariffs to compensate for the business loss.</p>
<p>S07 Group entity in resolution</p>	<p>ESA faces financial difficulties and is unable to effectively implement recovery measures in an appropriate time frame, leading to an inevitable slipping into resolution while EUI needs to continue to receive the support services from ESA (or an alternative service provider), to ensure uninterrupted services to clients.</p> <p>The resolution process of ESA would span over a matter of months, as the resolution authorities would need to engineer the transfer or sale of ESA or its orderly wind-down, including the sale of ESA assets. We assume that the interests of the administrator of ESA and that of the subsidiaries are aligned: (i) the services rendered by ESA have a positive value for EUI and (ii) the (potential) revenue from service provision to EUI is positive.</p> <p>As a consequence, a potential external buyer or the remaining group entities themselves have a business case to take over either ESA entirely or the assets and resources necessary to provide these services. The plan looks at how the need to finance this decision could impact EUI.</p>
<p>S08 Fine due to breach of sanction following geopolitical tensions</p>	<p>CSD (where applicable) is fined for breaching sanctions resulting from geopolitical tensions.</p>

Recovery, restructuring and wind-down options

The recovery, restructuring and wind-down options are designed to cover an idiosyncratic event, a market-wide crisis and/or a combination of both. The options listed below can be applied based on the scenario unfolding and the scale of the impact on EUI. Please note that none of the options results in a disruption of critical functions and activities. Restructuring options involving the sale of business line or entity identify the steps that would need to be taken to ensure critical functions remain unaffected. The winding-down options are there to ensure an orderly wind-down of some activities that are deemed critical for the market, over a certain period of time.

Options	Description
Recovery: Loss absorption and risk transfer	
A01 Available capital	Uses available capital as a first shock bumper to absorb losses. Any capital in excess of regulatory requirements can be used to absorb losses without need to (immediately) replenish available resources.
A03 Insurance	Maintains a Crime and Civil Liability insurance cover to ensure it is appropriately protected against operational risks, including external and internal fraud. The insurance protects Euroclear against third-party claims as a result of such events. In the case of fraud, Euroclear is also protected against own losses.
A04 Liability limitations	Ensures the liability borne by EUI is generally limited in the T&Cs governing relations with participants. Both the scope of events and related amounts for which EUI may be considered liable are limited and subject to an overall liability cap.

Recovery: Capital options	
C01 Seek capital within the group	Different sources of capital are available within the group. A loss may first be absorbed entirely or partially by the relevant entity's own excess capacity. If that is not sufficient, it may seek additional capital from the group.
C02 Seek capital externally	If internal measures are insufficient, the stricken entity or a parent (mainly ESA or EPLC) may need to seek capital from external shareholders. If capital is raised by ESA or EPLC, this would be done with a view to recapitalising the stricken entity and downstreaming the capital raised.
Restructuring options	
B01 Urgent cost reductions	Reduces costs in all areas where it is feasible quickly and without generating significant one-off costs that would offset the short-term benefits of the option. The scope of measures considers bonus, overtime, general expenses (e.g. travel, training, office supplies, personal expenses) and contractor fees (except IT contractors, included under B02 Keep lights on projects only).
B02 Keep lights on projects only	Reduces the projects roadmap to a level where core services are protected (referred to as « Keep the Lights On »). Only the resource capacity to maintain and support the main applications and the experts responsible for these core applications would be retained. Projects that are essential to maintain essential services, or directly contribute to the ability to meet regulatory requirements would also be protected.
B03 Downsize	<p>Considers reducing ESA divisions and/or any group entity (other than ESA) to the minimum level necessary to support the core services of the company. Given the magnitude and the short term objective of the downsizing, the procedure followed will be a collective dismissal, leading to a large one-off associated cost and estimated duration of 6 months.</p> <p>Considering those two aspects, this option would not be considered immediately but would be a second-order response consuming partially cash generated by other options.</p>
B04 Increase fees	EUI could increase the fees it charges to clients in order to regain profitability. In practice, this option needs to take into account competitive aspects, and there are certain restrictions on charging prices that may be considered excessive. A temporary (for a few months) fee increase could be more acceptable to the participants than for an undefined longer period.
D05 Sell EUI business lines	Considers selling EUI business lines even though, in practice, the appropriateness of such an option is limited as selling the core functionality would threaten the long-term viability of the CSD. Only Fund business (and its self-supporting IT platform) are expected to bring any material proceeds.
D06 Sell other assets	Considers disposing other assets held (e.g. real estate) and external participations. Implementing this option may require 4 to 6 months and would be highly dependent on the circumstances of the sale/capacity to find a buyer.
D07 Sell EUI	Selling the participation that ESA has in EUI to another investor (which may be a current shareholder of EPLC or not). The sale of EUI could happen either through a capital increase, whereby a new or current shareholder acquires a majority of shares or through the sale, by current shareholders, of all their EUI shares to a new acquirer.

Wind-down options	
W01 Bridge Institution	In the event that the restructuring plan fails the Resolution Authority could decide to transfer activities currently managed by EUI to a bridge institution with the goal to ensure critical economic functions are being maintained. Once situation is stabilised, the resolution authorities may decide to sell or issue shares.
W02 Close down	If EUI is no longer relevant for the market or shareholders have decided to close down the company because it is no longer profitable, with no prospect to recover. As a result there is no interest from a buyer or the Resolution Authority to buy or step in. Company is closed-down, products and services are stopped and (remaining) client assets are transferred to another provider.

Resolution plans

The preparation of our resolution plan(s) is expected to be initiated by the respective competent authorities soon. We do not yet have any view on the timeline involved.

Under UK law, a special administration regime would apply on the insolvency of EUI, which would ensure a specific objective is imposed on an administrator, to ensure the continuity of EUI's critical services. This regime is likely to be in place during 2017.

Principle 4: Credit risk

An FMI should effectively measure, monitor, and manage its credit exposure to participants and those arising from its payment, clearing, and settlement processes. An FMI should maintain sufficient financial resources to cover its credit exposure to each participant fully with a high degree of confidence. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should maintain additional financial resources sufficient to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two largest participants and their affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions. All other CCPs should maintain, at a minimum, total financial resources sufficient to cover the default of the one participant and its affiliates that would potentially cause the largest aggregate credit exposures to the CCP in extreme but plausible market conditions.

EUI does not have any credit exposure to its participants, in relation to domestic securities and cash settlement. EUI does not incur a material amount of credit or liquidity risks to its members, in the ordinary course of its business.

The CREST system design provides facilities for settlement banks to manage underlying clients' credit and liquidity risks. Credit exposures in relation to payment obligations between participants are removed from the CREST system for GBP and EUR denominated transactions through the real-time gross delivery versus payment mechanism in central bank money.

However, the current CREST USD arrangements operate on an assured payment basis. Although securities and member payment obligations settle on a real-time gross DvP basis, payment obligations between settlement banks are discharged on a bilateral net basis outside the CREST system at the end of each day. The assured payment mechanism therefore involves inter-bank credit risks. If a payee settlement bank does not receive net payment from a paying settlement bank, payment may be withheld or clawed back from the payee CREST member (subject to the commercial and credit arrangements between settlement bank and member). The daily volumes and values are not significant for USD settlement, but the system controls that are in place do not limit the potential exposures that could be created between settlement banks.

Credit risks under the current USD arrangements are mitigated by the admission criteria applied to settlement bank participation in the USD payment arrangements. Admission criteria set out in CREST Rule 16 require the CREST settlement bank and its correspondent bank to have a sufficient credit rating: a long-term credit rating of investment grade (BBB-, Baa3 and BBB-) and a short-term rating of F3, P-3 or A-3 or above from two of Fitch Inc., Moody's Investor Services and Standard & Poor's.

In 2017 EUI will implement a robust Central Bank Money based model for USD payments, which will address the credit risk inherent in the current model, by introducing limits, backed with cash collateral, and instructing payments directly to the NSS payment system operated by the Federal Reserve. This model will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

Principle 5: Collateral

An FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity, and market risks. An FMI should also set and enforce appropriately conservative haircuts and concentration limits.

As mentioned for Principle 4, EUI does not provide any credit facility to participants and has no financial exposure with participants (except the payment of invoices). Therefore, principle 5 is not applicable.

Principle 6: Margin

A CCP should cover its credit exposures to its participants for all products through an effective margin system that is risk-based and regularly reviewed.

This Principle is not applicable for EUI.

Principle 7: Liquidity risk

An FMI should effectively measure, monitor, and manage its liquidity risk. An FMI should maintain sufficient liquid resources in all relevant currencies to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate liquidity obligation for the FMI in extreme but plausible market conditions.

Key consideration 1

An FMI should have a robust framework to manage its liquidity risks from its participants, settlement banks, nostro agents, custodian banks, liquidity providers, and other entities.

EUI does not itself maintain or provide liquidity resources to participants and does not incur a material amount of credit or liquidity risk to or from its members in the ordinary course of its business.

As noted in relation to Principle 4, the CREST system design provides facilities and information for settlement banks to manage their credit and liquidity risks and requirements, in conjunction with the RTGS systems provided by the Bank of England and Central Bank of Ireland/TARGET2. These include the provision of additional intra-day GBP liquidity to CREST settlement banks through automated intra-day repurchase facilities with the Bank of England.

As also noted in relation to Principle 4, current CREST USD arrangements operate on an assured payment basis between settlement banks, with bilateral discharge of net payment obligations between settlement banks being discharged by normal commercial means outside the CREST system at the end of each day. Liquidity issues for settlement banks could therefore arise in relation to failure by a settlement bank to make an end of day payment. However, the daily volumes and values are not significant for USD settlement (although the controls that are in place do not limit the potential exposures that could be created between settlement banks). The new Central Bank Money based model for USD payments will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

Key consideration 2

An FMI should have effective operational and analytical tools to identify, measure, and monitor its settlement and funding flows on an ongoing and timely basis, including its use of intra-day liquidity.

The CREST system provides members and settlement banks with real-time system information, to enable them to monitor and manage liquidity requirements and risks. As noted above, arrangements include a facility for the automated on demand provision of intra-day sterling liquidity through an intra-day repurchase mechanism with the Bank of England. Settlement banks are responsible for managing their liquidity requirement through their arrangements with the Bank of England and TARGET2.

Interactive system functionality allows settlement banks to monitor any concerns with liquidity levels for clients' underlying settlement and if required, real-time liquidity increases and decreases can be managed via the Bank of England RTGS system or TARGET2 functionality.

As noted above in relation to Principle 4, on a monthly basis, EUI monitors credit usage between settlement banks and their underlying clients and has procedures in place to escalate any material changes. The monthly assessment of the credit usage allows EUI to engage with underlying clients of settlement banks, to discuss any tiering concerns that require the client to assess whether a direct relationship as a settlement bank may be necessary. For more details, see Principle 19.

Key consideration 3

A payment system or SSS, including one employing a DNS mechanism, should maintain sufficient liquid resources in all relevant currencies to effect same-day settlement, and where appropriate intraday or multiday settlement, of payment obligations with a high degree of confidence under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation in extreme but plausible market conditions.

As noted above in relation to GBP and EUR, settlement banks provide liquidity through central bank arrangements.

For USD settlement, an assured payment model operates with net end-of-day payment obligations being discharged bilaterally between settlement banks. Liquidity exposures for settlement banks may therefore arise if a settlement bank is unable to meet in a timely fashion its net assured payment obligations. The new Central Bank Money based model for USD payments will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

Key consideration 4

A CCP should maintain sufficient liquid resources in all relevant currencies, to settle securities-related payments, make required variation margin payments, and meet other payment obligations on time with a high degree of confidence, under a wide range of potential stress scenarios that should include, but not be limited to, the default of the participant and its affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions. In addition, a CCP that is involved in activities with a more-complex risk profile or that is systemically important in multiple jurisdictions should consider maintaining additional liquidity resources sufficient to cover a wider range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would generate the largest aggregate payment obligation to the CCP in extreme but plausible market conditions.

Not applicable for EUI.

Key consideration 5

For the purpose of meeting its minimum liquid resource requirement, an FMI's qualifying liquid resources in each currency include cash at the central bank of issue and at creditworthy commercial banks, committed lines of credit, committed foreign exchange swaps, and committed repos, as well as highly marketable collateral held in custody and investments that are readily available and convertible into cash with prearranged and highly reliable funding arrangements, even in extreme but plausible market conditions. If an FMI has access to routine credit at the central bank of issue, the FMI may count such access as part of the minimum requirement to the extent it has collateral that is eligible for pledging to (or for conducting other appropriate forms of transactions with) the relevant central bank. All such resources should be available when needed.

See Principle 15, key consideration 2.

Key consideration 6

An FMI may supplement its qualifying liquid resources with other forms of liquid resources. If the FMI does so, then these liquid resources should be in the form of assets that are likely to be saleable or acceptable as collateral for lines of credit, swaps, or repos on an ad hoc basis following a default, even if this cannot be reliably prearranged or guaranteed in extreme market conditions. Even if an FMI does not have access to routine central bank credit, it should still take account of what collateral is typically accepted by the relevant central bank, as such assets may be more likely to be liquid in stressed circumstances. An FMI should not assume the availability of emergency central bank credit as a part of its liquidity plan.

See Principle 15, key consideration 2.

Key consideration 7

An FMI should obtain a high degree of confidence, through rigorous due diligence, that each provider of its minimum required qualifying liquid resources, whether a participant of the FMI or an external party, has sufficient information to understand and to manage its associated liquidity risks, and that it has the capacity to perform as required under its commitment. Where relevant to assessing a liquidity provider's performance reliability with respect to a particular currency, a liquidity provider's potential access to credit from the central bank of issue may be taken into account. An FMI should regularly test its procedures for accessing its liquid resources at a liquidity provider.

See comments under key considerations above.

Key consideration 8

An FMI with access to central bank accounts, payment services, or securities services should use these services, where practical, to enhance its management of liquidity risk.

As previously noted, GBP and EUR payment arrangements apply Model 1 DvP settlement in central bank money.

Central bank money arrangements have not, to date, been practical or available in relation to USD settlement. The CSDR requires changes to the current USD assured payment arrangements. The new Central Bank Money model for USD payments will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

Key consideration 9

An FMI should determine the amount and regularly test the sufficiency of its liquid resources through rigorous stress testing. An FMI should have clear procedures to report the results of its stress tests to appropriate decision makers at the FMI and to use these results to evaluate the adequacy of and adjust its liquidity risk-management framework. In conducting stress testing, an FMI should consider a wide range of relevant scenarios. Scenarios should include relevant peak historic price volatilities, shifts in other market factors such as price determinants and yield curves, multiple defaults over various time horizons, simultaneous pressures in funding and asset markets, and a spectrum of forward-looking stress scenarios in a variety of extreme but plausible market conditions. Scenarios should also take into account the design and operation of the FMI, include all entities that might pose material liquidity risks to the FMI (such as settlement banks, nostro agents, custodian banks, liquidity providers, and linked FMIs), and where appropriate, cover a multiday period. In all cases, an FMI should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount and form of total liquid resources it maintains.

Forward looking multi-year stress testing is performed as part of the annual budget exercise and on an ad hoc basis throughout the year, when necessary to ensure continuing financial resilience (for example to facilitate dividend decisions). Stress tests are derived from detailed financial analysis of historic and plan data and discussions with the Executive Committee, Audit and Risk Committee and the Board. The stress tests have two components: volatility in transaction volumes and depot values and stresses arising from a range of possible threats to the business. The results of the stress testing are measured against the Financial Resource Requirement (see Principle 15, Key consideration 2).

The annual stress testing is presented in conjunction with the annual budget to the Executive Committee and to the Board for approval.

Key consideration 10

An FMI should establish explicit rules and procedures that enable the FMI to effect same-day and, where appropriate, intraday and multiday settlement of payment obligations on time following any individual or combined default among its participants. These rules and procedures should address unforeseen and potentially uncovered liquidity shortfalls and should aim to avoid unwinding, revoking, or delaying the same-day settlement of payment obligations. These rules and procedures should also indicate the FMI's process to replenish any liquidity resources it may employ during a stress event, so that it can continue to operate in a safe and sound manner.

The CREST system supports two payment mechanisms, depending upon the currency involved. For GBP and EUR, CREST settlement operates an RTGS payment mechanism, whereby securities settlement is simultaneous with discharge of inter-member payment obligations and inter-settlement bank payment at the Bank of England for GBP and in TARGET2 for EUR. For USD, CREST settlement operates an assured payments mechanism. The new Central Bank Money based model for USD payments will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

The legal mechanisms supporting GBP, EUR and USD settlement in the CREST system enable the discharge of payment obligations on a real-time, gross DvP basis. The GBP and EUR central bank money arrangements ensure there can be no unwinding, revoking or delay in respect of payment obligations settled in the CREST system. As noted previously, it is possible for delays to arise in relation to the bilateral discharge of net end-of-day settlement bank payment obligations in the USD assured payment arrangement. Although this cannot lead to the unwinding or revocation of settlement, settlement banks may seek to delay or claw back payment to their own clients.

Principle 8: Settlement finality

An FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, an FMI should provide final settlement intraday or in real time.

Key consideration 1

An FMI's rules and procedures should clearly define the point at which settlement is final.

The CREST Rules clearly define the point at which settlement is final. Finality of settlement is supported by the CREST system's designation, pursuant to regulations implementing the Settlement Finality Directive. The CREST system has been designated in the UK by the Bank of England, pursuant to the Financial Markets and Insolvency (Settlement Finality) Regulations 1999 (S.I. 1999 No. 2979) and in Ireland for the purposes of the European Communities (Settlement Finality) Regulations, 2010 (SI No 624 of 2010). The UK Settlement Finality Regulations and the Irish Settlement Finality Regulations implement the Settlement Finality Directive (Directive 98/26/EC of the European Parliament and of the Council of 19 May 1998 on settlement finality in payment and securities settlement systems. These arrangements ensure that settlements are not vulnerable to unwind/clawback by an insolvency office holder (liquidator/administrator) or other party.

For GBP transactions, settlement of payment transfer orders is underpinned by irrevocable and unconditional undertakings by the Bank of England to debit the paying CREST settlement bank's RTGS account and credit the payee CREST settlement bank's RTGS account in central bank money.

For EUR transactions, settlement of payment transfer orders is underpinned by an irrevocable and unconditional guarantee given by the Central Bank of Ireland, in accordance with the Guideline of the European Central Bank of 5 December 2012 (ECB/2012/27) on a Trans-European Automated Real-time Gross Settlement Express Transfer system.

Currently for USD transactions, the timing of when the payee CREST Dollar Settlement Banks and payee CREST Members actually receive funds is dependent on commercial bank arrangements external to CREST.

EUI operates cross-border links with DTCC and Euroclear Bank (for free of payments transactions) and SIX SIS AG (for free of payments transactions and a DvP link). Cross-border transfers are subject to blocking or other mechanisms, to ensure no provisionally transferred security is available for other settlement. All transfers into the CREST system via these links have a point of finality and irrevocability.

Full information on the settlement positioning of cross-border transactions is set out in the CREST International Manual available on my.euroclear.com.

Key consideration 2

An FMI should complete final settlement no later than the end of the value date, and preferably intraday or in real time, to reduce settlement risk. An LVPS or SSS should consider adopting RTGS or multiple-batch processing during the settlement day.

The CREST system facilitates real-time gross final settlement of delivery versus payment transfers on a continuous basis throughout the settlement day. There is no overnight batch processing of settlement, so all processing is done during the business day in real time.

Key consideration 3

An FMI should clearly define the point after which unsettled payments, transfer instructions, or other obligations may not be revoked by a participant.

The CREST Rules, in particular CREST Rule 13, clearly define the moment of entry, irrevocability and settlement of payment and security transfer orders. A transfer order is irrevocable from the time at which it is, or becomes, incapable of being amended or deleted (in accordance with the procedures set out in the CREST Manual) by the single input of an instruction from the participant that wishes to amend or delete the order. For example, for delivery instructions, this is the moment the transaction is matched (and can then only be deleted by matching instructions).

The default arrangements of EUI for the purposes of the relevant Settlement Finality Regulations comprise (for full details of which reference should be made to CREST Rule 13):

- rights and powers reserved to EUI in its agreement with each participant (including the CREST Terms and Conditions), the CREST Manual and the CREST Rules which enable EUI to suspend or terminate the participation of that participant upon the occurrence of certain specified events, as well as EUI's insolvency and default procedures
- netting procedures in relation to netting processed in the CREST system
- the procedures and any other arrangements that are in place with a view to limiting systemic and other types of risk that might arise in the event of an RTGS settlement bank appearing to be unable, or likely to become unable, to meet its obligations
- procedures that facilitate the realisation of a settlement bank's security

Principle 9: Money settlements

An FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, an FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Key consideration 1

An FMI should conduct its money settlements in central bank money, where practical and available, to avoid credit and liquidity risks.

The CREST system provides DvP settlement in central bank money, with simultaneous and irrevocable transfer of cash and securities for all GBP and EUR payments.

Central bank money settlement is not currently available for EUI in relation to USD. USD settlement operates on an assured payment basis. In this system, member payment obligations are discharged irrevocably and simultaneously with securities transfer. Inter-bank obligations arising from USD transactions are settled on an end-of-day bilateral net basis, through bilateral commercial arrangements between settlement banks.

Risks associated with bilateral assured payment obligations between settlement banks are mitigated by low values. EUI monitors volumes and values and the adherence of settlement banks to admission criteria. The new Central Bank Money based model for USD payments will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

Key consideration 2

If central bank money is not used, an FMI should conduct its money settlements using a settlement asset with little or no credit or liquidity risk.

Participation of settlement banks in relation to USD settlement is subject to the admission criteria set out in CREST Rule 16, which includes requirements relating to credit rating.

The new Central Bank Money based model for USD payments will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

Key consideration 3

If an FMI settles in commercial bank money, it should monitor, manage, and limit its credit and liquidity risks arising from the commercial settlement banks. In particular, an FMI should establish and monitor adherence to strict criteria for its settlement banks that take account of, among other things, their regulation and supervision, creditworthiness, capitalisation, access to

liquidity, and operational reliability. An FMI should also monitor and manage the concentration of credit and liquidity exposures to its commercial settlement banks.

As noted above, USD settlement bank participation includes credit rating requirements. EUI monitors the adherence of settlement banks (and their correspondent banks) to these requirements and has powers to suspend the participation of settlement banks from the USD arrangements if they no longer meet the admission criteria.

EUI monitors USD volumes and values to ensure the payment model reflects the usage of the currency. The new Central Bank Money based model for USD payments will ensure observance of principles 4, 7 and 9, and will be compliant with the CSDR.

Key consideration 4

If an FMI conducts money settlements on its own books, it should minimise and strictly control its credit and liquidity risks.

Not applicable for EUI.

Key consideration 5

An FMI's legal agreements with any settlement banks should clearly state when transfers on the books of individual settlement banks are expected to occur, that transfers are to be final when effected, and that funds received should be transferable as soon as possible, at a minimum by the end of the day and ideally intraday, in order to enable the FMI and its participants to manage credit and liquidity risks.

Bilateral and multilateral contractual arrangements between EUI, the Bank of England and the CREST sterling settlement banks govern the operation and provision of the DvP payment arrangements in GBP.

Bilateral and multilateral contractual arrangements between EUI, the Central Bank of Ireland and CREST Euro settlement banks as well as the Guideline of the European Central Bank of 5 December 2012 (ECB/2012/27) on a Trans-European Automated Real-time Gross Settlement Express Transfer system, govern the operation and provision of the DvP payment arrangements in EUR.

Bilateral and multilateral contractual arrangements between EUI and the CREST US dollar settlement banks govern the operation and provision of the DvP payment arrangements in USD. The new Central Bank Money based model for USD payments will ensure compliance with principles 4, 7 and 9, and will be compliant with the CSD Regulation. Revised contractual arrangements between EUI, the Federal Reserve Bank of New York, the Bank of England, CREST settlement banks, US correspondent banks and CREST members will be put in place to implement the new USD model.

Principle 10: Physical deliveries

An FMI should clearly state its obligations with respect to the delivery of physical instruments or commodities and should identify, monitor, and manage the risks associated with such physical deliveries.

Key consideration 1

An FMI's rules should clearly state its obligations with respect to the delivery of physical instruments or commodities.

Securities held in the CREST system are all dematerialised, not immobilised; all transfers of securities in the CREST system are book entry, there are neither vaults nor paper transfers.

Customers who want to hold securities in physical form can withdraw them from and hold them outside the CREST system. EUI provides services to support participants in the depositing and withdrawal of securities and the delivery of physical securities to and from registrars. This is done through the CREST Courier and Sorting Service operated by TNT. These arrangements are fully described in the CREST CCSS Operations Manual available on the Euroclear website.

In addition, EUI allows private individuals to be members of CREST and maintain a direct name on register and relationship with the issuer in dematerialised form.

Key consideration 2

An FMI should identify, monitor, and manage the risks and costs associated with the storage and delivery of physical instruments or commodities.

EUI monitors and manages the provider of the CREST Courier and Sorting Service, to ensure physical delivery of share certificates between brokers and registrars is operating effectively and to agreed service standards. Registrars are subject to service standards set out in the CREST Rules. The costs associated to physical delivery services are recovered via tariff charges on the stock withdrawal and deposit functionality.

Principle 11: Central securities depositories

A CSD should have appropriate rules and procedures to help ensure the integrity of securities issues and minimise and manage the risks associated with the safekeeping and transfer of securities. A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry.

Key consideration 1

A CSD should have appropriate rules, procedures, and controls, including robust accounting practices, to safeguard the rights of securities issuers and holders, prevent the unauthorised creation or deletion of securities, and conduct periodic and at least daily reconciliation of securities issues it maintains.

Securities held within the CREST system are fully dematerialised. As noted under key consideration 4 below, CREST members directly hold legal title to domestic securities. EUI is not an intermediary in the ownership chain, therefore EUI's insolvency would not affect the member's entitlement to those securities. EUI does not have a lien on the domestic securities held in or transferred through it.

Registrars reconcile securities on a daily basis with EUI and ensure total security balances and member account balances (where a security has experienced a stock movement) are fully reconciled. On a quarterly basis, registrars fully reconcile every account balance in all settleable securities and will become fortnightly under CSDR. Registrars also perform full reconciliations before any corporate action.

CSDR also requires for appropriate rules and procedures to be in place to help ensure the 'integrity of the issue' of securities a CSD admits to its system. During 2016 EUI has reviewed a number of proposals aimed at enhancing its existing controls around securities balance creation in the CREST system. Following market consultation a proposal has been agreed that will enrich the integrity of the registrar issuance function in the CREST system. The additional control will be implemented towards the end of 2017.

International securities (meaning those other than domestically held UK, Ireland, Jersey, Guernsey and Isle of Man securities) are held by EUI on behalf of members through separate subsidiaries, which are nominee companies that are the direct participants in three overseas CSDs, for the benefit of the relevant members. Securities are held under an English law trust that protects the interests of the members from the insolvency of the intermediary or EUI. (Furthermore, the EUI subsidiaries have a very low risk profile and their liabilities are guaranteed by EUI.)

EUI has obtained legal opinions from external counsel which gives it comfort that, in the event of the insolvency of a counterpart CSD with which it has a link, the assets of the beneficial holder (meaning the CREST member) will not be deemed to form part of the estate of the CSD.

Automatic reconciliations of stock and cash holdings recorded at CSDs against CREST's own records of these holdings are performed daily on a transaction and balance basis.

Key consideration 2

A CSD should prohibit overdrafts and debit balances in securities accounts.

CREST system design prohibits debit balances in securities accounts.

Key consideration 3

A CSD should maintain securities in an immobilised or dematerialised form for their transfer by book entry. Where appropriate, a CSD should provide incentives to immobilise or dematerialise securities.

Securities held within the CREST system are fully dematerialised.

Key consideration 4

A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal framework.

Pursuant to legislation in the UK, Ireland, Jersey, Guernsey and the Isle of Man, along with EUI's Rules, procedures and contractual arrangements, the CREST system operates a direct holding model with securities legally owned by the member. Since legal title is always registered in the name of the owner (meaning the member) of the relevant securities and there is no intermediation of holding, asset protection issues do not arise. (It should be noted that cash is held outside the CREST system.)

For the CREST International Service, EUI has links with SIS, DTCC and Euroclear Bank and, as part of its legal due diligence, has obtained legal opinions covering asset protection under Swiss, New York and Belgian law. At a practical level, a wholly-owned subsidiary of EUI (CREST Depository Limited), through its nominees, holds the underlying international securities in an account in the relevant CSD (either directly or through a sub-custodian). The links that these CSDs have with other overseas CSDs enable CREST members to hold and settle transactions in certain securities issued under the laws of several jurisdictions.

Key consideration 5

A CSD should employ a robust system that ensures segregation between the CSD's own assets and the securities of its participants and segregation among the securities of participants. Where supported by the legal framework, the CSD should also support operationally the segregation of securities belonging to a participant's customers on the participant's books and facilitate the transfer of customer holdings.

As noted under key consideration 4 above, EUI is not intermediated in the holding chain for domestic securities. CREST members are legal owner of securities held by means of the CREST system.

Clients' securities are segregated by a membership account structure and no transfer of assets can occur without a client instruction transmitted across secure, accredited networks with properly authenticated dematerialised instructions. The CREST system facilitates complete segregation of securities belonging to customers of participants through a flexible participant and account structure.

Key consideration 6

A CSD should identify, measure, monitor, and manage its risks from other activities that it may perform; additional tools may be necessary in order to address these risks.

For all its services, EUI identifies, measures, monitors and manages its risks in line with its Enterprise Risk Management framework. Before new services are offered, they need to be approved after a risk assessment (see principle 3).

Principle 12: Exchange-of-value settlement systems

If an FMI settles transactions that involve the settlement of two linked obligations (for example, securities or foreign exchange transactions), it should eliminate principal risk by conditioning the final settlement of one obligation upon the final settlement of the other.

Key consideration 1

An FMI that is an exchange-of-value settlement system should eliminate principal risk by ensuring that the final settlement of one obligation occurs if and only if the final settlement of the linked obligation also occurs, regardless of whether the FMI settles on a gross or net basis and when finality occurs.

CREST system design, rules, procedures and contractual arrangements ensure delivery versus payment (meaning transfer of title to securities is simultaneous with discharge of payment obligations) on an intra-day real-time gross basis.

Transfer of legal title to securities in Ireland, Jersey, Guernsey and the Isle of Man may occur up to two hours following settlement in the CREST system, with beneficial rights arising at the point of settlement. The risk of failure of legal title transfer is very limited and the circumstances are clearly defined in the relevant regulations. Full electronic transfer of title to these securities would require legislative change in each of the relevant jurisdictions. The risks are clearly explained to participants in the CREST Manual.

As noted above in relation to Principle 4, for USD, only intra-day inter-settlement bank assured payment obligations are discharged at the end-of-day through bilateral commercial arrangements between settlement banks. CREST members are exposed to the risk that having delivered a security, they fail to receive payment from their settlement bank if that bank has not received payment in turn from the paying settlement bank. (This will depend on the contractual arrangements between CREST members and their settlement banks).

Principle 13: Participant-default rules and procedures

An FMI should have effective and clearly defined rules and procedures to manage a participant default. These rules and procedures should be designed to ensure that the FMI can take timely action to contain losses and liquidity pressures and continue to meet its obligations.

Key consideration 1

An FMI should have default rules and procedures that enable the FMI to continue to meet its obligations in the event of a participant default and that address the replenishment of resources following a default.

EUI has effective and clearly defined arrangements for handling participant defaults, to minimise disruption caused to other participants and the CREST system.

The CREST Terms and Conditions (or other applicable terms and conditions) define insolvency related events. EUI will take action following receipt of actual notice of a default event in respect of a participant. Notice may be received by various means, including by way of notification from regulators, court order or the relevant insolvency practitioner. As soon as EUI becomes aware of a default, EUI can be expected to suspend that participant's access to the system.

EUI has wide powers of suspension and termination of participation following a default event, as set out in the CREST Terms and Conditions. Provisions relating to finality of settlement and

actions EUI can be expected to take following the default of a participant are set out in the CREST Rules (including the guidance to the Rules). Conditions for the admission of CREST settlement banks and the actions EUI can be expected to take if those conditions are no longer met are also set out in the CREST Rules. EUI has also worked closely with the Bank of England to plan steps that would be taken in the event of the default of a settlement bank.

EUI does not extend credit or liquidity and does not use its own financial resources in the event of a default of a participant.

As EUI is not party to any settlement transactions, the default of a participant will have no direct impact on EUI financial resources and will not lead to any losses for EUI, other than in respect of unpaid fees.

Key consideration 2

An FMI should be well prepared to implement its default rules and procedures, including any appropriate discretionary procedures provided for in its rules.

EUI has operational procedures in place in relation to the handling of a default event. EUI has assessed and prepared for the management and handling of multiple participant defaults.

As noted below, EUI is providing testing of technical and legal arrangements to settlement banks, in relation to the default of a participant that has granted security to its settlement bank.

EUI maintains internal insolvency guidelines describing the verification and decision processes applicable to the insolvency of a participant.

The guidelines further outlines to whom the information regarding an insolvency should be distributed, including, but not limited to, regulators, other participants, stock exchanges and other group companies.

Key consideration 3

An FMI should publicly disclose key aspects of its default rules and procedures.

The CREST Terms and Conditions and the CREST Rules (including the guidance to those rules) are publicly available on my.euroclear.com.

The circumstances that may lead to the suspension or termination of the contract with a defaulting participant are described in the Terms and Conditions.

Key consideration 4

An FMI should involve its participants and other stakeholders in the testing and review of the FMI's default procedures, including any close-out procedures. Such testing and review should be conducted at least annually or following material changes to the rules and procedures to ensure that they are practical and effective.

EUI carries out annual testing for technical exceptions that could prohibit an orderly closing down of the CREST system. Clients and settlement banks have the opportunity to test how a non-standard CREST closure would operate if there were a technical issue preventing the completion of settlement.

EUI has held workshops with clients (including settlement banks), to ensure lessons have been learnt from the financial crisis and major defaults and to allow clients to verify internal procedures for a default scenario. Currently there is no formal annual testing with clients on the specifics of a default scenario. However if CREST rules or procedures were amended to reflect any changes to default handling, EUI would facilitate a workshop to educate clients on such changes. EUI is providing for security charge realisation testing for settlement banks to test documentation, procedures and operational handling of a client default scenario that requires realisation of a settlement bank charge.

Principle 14: Segregation and portability

A CCP should have rules and procedures that enable the segregation and portability of positions of a participant's customers and the collateral provided to the CCP with respect to those positions.

This Principle is not applicable for EUI.

Principle 15: General business risk

An FMI should identify, monitor, and manage its general business risk and hold sufficient liquid net assets funded by equity to cover potential general business losses so that it can continue operations and services as a going concern if those losses materialise. Further, liquid net assets should at all times be sufficient to ensure a recovery or orderly wind-down of critical operations and services.

Key consideration 1

An FMI should have robust management and control systems to identify, monitor, and manage general business risks, including losses from poor execution of business strategy, negative cash flows, or unexpected and excessively large operating expenses.

EUI has procedures in place to identify, monitor and manage its general business risks. Assets are held in accordance with criteria agreed with the Bank of England.

Euroclear defines its general business risks both through a bottom-up process, where all business areas assesses their risks in a structured and recurring process (RCSA-risk control self-assessments), including strategic and business risks. These are consolidated for each Euroclear entity. The top-down approach is done by the management team in strategic and business risk assessments, including horizon scanning and out of the box views on the CSD business. This approach also takes into consideration the capital requirements under CSDR

The business risks are monitored through group functions and in the local management team. A systematic and continuous analysis of client preferences and regulatory changes are done in product and client relation functions, as well as in the legal department.

The Product Management and Finance functions conduct a monthly revenue assessment of all revenue streams. Market intelligence, regulatory changes and external sources of market statistics are used to evaluate internal revenue outcome and predictions. Forecasts of volumes, value and revenues are officially re-evaluated at Euroclear group level, three times per year. The monthly analysis and forecasts are sent to Euroclear SA management committee and the Executive Committee of each entity of the group.

Key consideration 2

An FMI should hold liquid net assets funded by equity (such as common stock, disclosed reserves, or other retained earnings) so that it can continue operations and services as a going concern if it incurs general business losses. The amount of liquid net assets funded by equity an FMI should hold should be determined by its general business risk profile and the length of time required to achieve a recovery or orderly wind-down, as appropriate, of its critical operations and services if such action is taken.

Euroclear determines how much equity it needs to hold, based on the risks faced by each of the Euroclear entities. This takes all risk types into account, including, but not limited to, business risk.

The core equity required for the Euroclear CSDs and for Euroclear Bank is determined in line with the Internal Capital Measurement Approach (ICMA). The objective of the Internal Capital Measurement Approach (ICMA) is to establish high level principles that can be applied to all entities of the Euroclear group, to ensure that they have sufficient capital to cover their risks. The approach is consistent across all entities of the Euroclear group and is an essential

component of the group's Pillar 2 under Basel II and takes into consideration the capital requirements of the CSDR.

The internal view on the core equity required for the Euroclear CSDs is derived using methodologies that are consistent with the low-risk profile of these entities. It is essentially scenario-based and covers operational and business risks, and is measured at the 99.9% confidence level.

EUI has no direct cash relationship with its clients (except in relation to the CREST International Service). Consequently, it does not extend loans or credit facilities to CREST participants. EUI can potentially face a certain level of credit risk arising from the non-payment of fees by their clients, albeit for limited amounts, considering both the frequency of the billing and their relatively broad customer base. Finally EUI is also exposed to the credit risk related to the reinvestment of its cash surplus with its bank counterparties. To limit the credit risk taken on such counterparties, the banks that are considered for these investments should at least have a rating in an 'A' range, and cannot exceed two years. The type of instruments used is limited to short-term, medium-term, overnight deposits or similar products.

EUI holds liquid assets and capital in accordance with guidance previously contained in REC 2.3 of the FSA's REC sourcebook. EUI holds the equivalent of six months of gross operating expenses, plus a 50% monitoring buffer. Only non-cash related expenses are deducted (meaning depreciation and amortisation) for the calculation. EUI holds the liquid assets in the form of cash and cash held on separate term deposits at banks with a rating in an 'A' range. The capital is held in the form of retained earnings.

Key consideration 3

An FMI should maintain a viable recovery or orderly wind-down plan and should hold sufficient liquid net assets funded by equity to implement this plan. At a minimum, an FMI should hold liquid net assets funded by equity equal to at least six months of current operating expenses. These assets are in addition to resources held to cover participant defaults or other risks covered under the financial resources principles. However, equity held under international risk-based capital standards can be included where relevant and appropriate to avoid duplicate capital requirements.

See response under Principle 3, Key consideration 4.

The recovery plan focuses on recovery and survival of Euroclear entities as going concerns. In addition, it identifies and describes recovery options that may imply selling business lines or entities (in the group recovery plan). Such transfers would be essential to support the orderly wind-down of any CSD. See response under Principle 15, Key consideration 2. Each Euroclear entity maintains a core capital that exceeds six months of operating expense.

Key consideration 4

Assets held to cover general business risk should be of high quality and sufficiently liquid in order to allow the FMI to meet its current and projected operating expenses under a range of scenarios, including in adverse market conditions.

See response to Key consideration 2 above, in relation to liquid net assets. The banks that are considered for the investments of EUI cash should at least have a rating in the 'A' range, and such investments cannot exceed two years. The type of instruments used is limited to cash, short/medium-term or overnight deposits or similar products.

Key consideration 5

An FMI should maintain a viable plan for raising additional equity should its equity fall close to or below the amount needed. This plan should be approved by the board of directors and updated regularly.

The recovery plans for the Euroclear entities include options describing how capital could be sought from other group entities or from external shareholders. See our replies under Principle 3, Key consideration 4, on recovery planning in the group.

As the immediate parent company, Euroclear SA/NV (ESA) is particularly well-placed to inject capital in its subsidiaries, in case of need. It is the group's policy to maintain excess capital in ESA. Recapitalisation via the group's excess capital can be decided on and implemented rapidly.

The excess capacity available in ESA exceeds the capital currently held by any group CSD, meaning ESA has significant means to cover EUI's potential needs in case of a severe stress scenario.

Principle 16: Custody and investment risks

An FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. An FMI's investments should be in instruments with minimal credit, market, and liquidity risks.

Key consideration 1

An FMI should hold its own and its participants' assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.

As noted in Principle 11, Key consideration 1, domestic securities are fully dematerialised and directly held by CREST members. EUI does not hold domestic securities on behalf of participants.

In relation to the CREST International Service, see responses in respect of Principle 11.

Key consideration 2

An FMI should have prompt access to its assets and the assets provided by participants, when required.

Not applicable in relation to domestic securities. In respect of international securities, see response to Principle 11.

Key consideration 3

An FMI should evaluate and understand its exposures to its custodian banks, taking into account the full scope of its relationships with each.

Not applicable in relation to domestic securities. In respect of international securities, EUI does not hold securities through custodian banks.

Key consideration 4

An FMI's investment strategy should be consistent with its overall risk-management strategy and fully disclosed to its participants, and investments should be secured by, or be claims on, high-quality obligors. These investments should allow for quick liquidation with little, if any, adverse price effect.

EUI Board approved policy for the investment of its own funds is as follows:

- duration of investments should not exceed a maximum term of two years
- types of instrument are limited to Term Deposits or similar products
- funds used for investment should be deposited with an institution with an external rating in the 'A' rating range
- banks that are used for investment should be part of the Euroclear group pre-approved list
- at least two counterparties should be used with a minimum of 50% of EUI core equity invested in one of them (as of early 2017 four counterparties will be used with a maximum investment of 25%).

EUI makes no investments on behalf of clients.

Principle 17: Operational risk

An FMI should identify the plausible sources of operational risk, both internal and external, and mitigate their impact through the use of appropriate systems, policies, procedures, and controls. Systems should be designed to ensure a high degree of security and operational reliability and should have adequate, scalable capacity. Business continuity management should aim for timely recovery of operations and fulfilment of the FMI's obligations, including in the event of a wide-scale or major disruption.

Key consideration 1

An FMI should establish a robust operational risk-management framework with appropriate systems, policies, procedures, and controls to identify, monitor, and manage operational risks.

Operational risk management framework

Euroclear has established a robust operational risk management framework which builds on Euroclear's overall enterprise risk management framework and covers relating risk management arrangements and procedures to ensure identification, monitoring and management of operational risks.

The Euroclear group aims to align its risk management practices as closely as possible with major recommendations from various regulatory and industry bodies, such as:

- CPMI-IOSCO
- European Securities and Markets Authority
- European Banking Authority
- European Central Bank
- Basel Committee for Banking Supervision
- Local regulators

It has been developed and is maintained in accordance with best practices for risk management and regulatory guidelines, including:

- COSO
- ISO 31000:2009 principles and generic guidelines on risk management
- ISO 27001:2013 guidelines for Information Security
- Local regulatory requirements

- Standards and guidelines issued by the Basel Committee on Banking Supervision and the European Banking Authority

The EUI Board put in place the Corporate risk Board Policy and Operational Risk Policy framework documents. The primary goal of the Operational Risk Policy Framework documents is to define an operational risk management framework that ensures that EUI takes the necessary steps in its day-to-day operations to effectively identify, assess, monitor and manage operational risk at all levels. The risk management framework describes:

- how operational risks are identified
- who bears responsibility for managing these risks
- how they can be mitigated
- all relevant operational risk processes
- the role of people within the processes
- the information needed to make sound management decisions.

Identification of operational risk

Operational risk is the risk of financial and reputational loss from inadequate or failed internal processes, people and systems.

We adopt the Basel III definition of Operational Risk which views Operational Risk as an umbrella risk, encompassing:

- Processing risk - the risk of loss (financial or reputation) resulting from inadequate or failed internal processes, people, system or external events
- Accounting risk - the risk of loss (financial or reputational) arising from the failure to produce timely and accurate management reporting and financial statements
- Ethical conduct, legal and compliance risks
- People risk
- Project risk
- Information and system risk
- The Operational risk policy framework documents includes amongst others: Corporate and Information Security, physical and logical security
- Services by Third Parties
- Media communications
- Accounting risks
- Customer affiliation and monitoring
- Business continuity management

- Management of the agents network

The policy goals are then translated by senior management into policy handbooks (or in the past Management Resolutions) which are further detailed in Implementation Procedures.

The Operational Risk Management Framework implements a risk management cycle that encompasses:

- risk identification, assessment and measurement
- risk response: mitigate, accept, transfer/insure or avoid
- risk reporting and escalation

Risk identification, assessment and measurement by the business areas are performed by:

- systematic risk assessments of new products or services
- monitoring performance and risk indicators of on-going business
- yearly risk and control self-assessments

Examples of such indicators are:

- settlement volumes
- settlement failures
- number of corporate actions
- revenue monitoring
- service availability
- number of operational incidents

The annually updated Business Continuity plan assesses threats and risks associated with an interruption to business processes, including those stemming from external sources. Each business area has identified its recovery requirements (staff, communications and records, equipment, procedures) and produced or procedures which fit with the overall business continuity plan. Single points of failure for critical services are assessed and are eliminated as far

as possible in the development projects requirements process, and for live services in recurring risk control self-assessments.

Monitoring of operational risk

Once identified, management analyses the risks to confirm their significance, understand which business objective(s) they might impact and assess how they might manifest themselves. Other considerations include identifying potential root causes, how the risk might link with other risks and prioritising risks for treatment.

As part of this analysis, management seeks to identify relevant key risk indicators for each new risk that can be measured and monitored to give an indication of how the risk might change over time and / or materialise.

Management of operational risk

Following prioritisation, management selects one or more risk response strategies to address the risk. The chosen strategies help management define the types of controls that might be needed to bring the risk to a target residual risk level.

The four main risk response strategies are:

- Avoid – avoid or prevent the risk by tackling the root cause;
- Mitigate – mitigate the risk by introducing controls that reduce risk likelihood, impact or both (including contingency controls);
- Accept – decide that the risk is tolerable; or
- Transfer – transfer the risk to a third party, typically through insurance.

Based on the chosen response strategies and prioritisation, management prepares action plans (which should be captured in the central risk database) for the design and implementation of appropriate controls to bring the risk to the target level over a defined period of time. Controls may be preventive, detective or corrective (including containment).

The governance and management bodies involved in the risk process (e.g. boards, risk committees, management committees, ROCs, etc.) have access to additional reporting, such as assurance maps and positive assurance reports, to provide additional comfort that the risk policy has been effectively implemented.

Those governance and management bodies have responsibility for regularly reviewing and constructively challenging risk information with a view to:

- establishing the completeness and accuracy of reported risks and incidents (including accepted risks)
- reviewing the adequacy of risk analysis, prioritisation, response strategies and plans
- assessing how risks might impact the achievement of key business goals and what further actions might be needed to increase the likelihood of a successful outcome

Risk deep dives and scenario analysis (including stress testing) also be used to enhance the robustness of risk considerations.

For the management of these risks, the Board is defining yearly the Risk tolerance level consistent with the available capital and the management the level of risk that can be accepted (risk appetite) with the objective to keep the risk profile low and stable.

Policies, processes and controls

The business areas need to develop solutions to mitigate risks effectively, with the Risk Management function providing an advisory role for material risks. Risk mitigating action plans and their target date are logged. The successful implementation of these mitigating actions is monitored by Risk Management and is reported regularly to management.

The timeliness of risk resolution is counted as a performance indicator in the Euroclear group's Balanced Scorecard (e.g. addressing the key control and risk issues identified during the annual review of the Internal Control System (ICS)).

Risk monitoring tools are in place and are continuously evolving to follow-up risks. Where possible, Line Management puts in place tactical measures to avoid the risks materialising in the advent of a more structural solution. Risks can be accepted when the costs required to mitigate the risk outweigh the benefits. Depending upon the impact of the risk, the decision to accept a risk is made by the business owners or by EUI management. There is a process to re-evaluate all accepted risks on a bi-yearly basis.

The risk monitoring is performed using a Risk Register, which is an inventory of the risk types that we face in pursuing its corporate objectives. The allocation of responsibilities within our three lines of defence model is:

- first line of defence: identifies and manage the risks that may prevent reaching their objectives, define and operate controls to mitigate the risks and document and demonstrate the control environment.
- second line of defence:
 1. Risk Management provides robust independent oversight of management's risk-taking activities.

2. Compliance: monitors, tests and reports to management on controls relating to laws and regulations and advises on remedial actions. Other support functions like Finance or HR monitor specific controls and escalate to management in case of control defects
- third line of defence: Internal Audit independently reviews and tests the controls and reports to management about the adequacy and effectiveness of the control environment.

The Human Resources (HR) function has established formal hiring policies providing appropriate assurance that new employees are qualified for their job responsibilities. The hiring process includes the communication to HR of an extract for the applicant of national register recording past crimes.

All new employees complete a standard introduction programme. In addition, there are informal departmental seminars, supervised on-the-job trainings, and formal in-house training courses. Certain positions require specialised training provided by third parties. Managers are responsible for encouraging staff to pursue additional training and development to increase expertise within their functional responsibilities.

All personnel agree personal written objectives for the year with their manager, including discussions on training needs and career plans. Appraisal meetings are held to follow-up on objectives and performance during the year. A succession plan is established and covers all managerial positions.

HR maintains a talent management process, where existing staff profiles are tested against upcoming vacancies. It also maintains records of joiners, movers, leavers and updated the EXCOM management team regularly about status and trends. Staff rotation and transfers between departments and even between the entities of the Euroclear group is encouraged.

Fraud related policies, processes and controls

Fraud prevention is a key element of our Enterprise Risk Management and Operational Risk Management Framework. Therefore, the Euroclear group has implemented in all its entities, including the ESES CSDs, policies and guidance on:

- Fraud prevention
- Code of conduct
- Ethical Conduct
- Conflict of interest
- Market abuse
- Accepting gifts
- AML, sanctions
- Whistleblowing

Additionally, in areas where values are handled (e.g. payments), there are numerous operational controls implemented in order to minimise the risk of fraud, e.g. STP-processing, 4-eyes principles, reconciliation checks, etc.

Fraud Reporting is essential to ensure the consistent treatment of information regarding fraud, the proper investigation by an independent and experienced team, and the protection of Euroclear group 's interests and reputation. All staff have been informed on how to report any evidence or suspicion of fraudulent activities.

All staff must complete on a regular basis a compliance test including questions related to fraud prevention.

New products/services related policies, processes and controls

When designing (new) products and services, all risk types including operational risk are considered via formal risk assessments before the launch. The implementation of the controls or measures that are required subsequent to such risk assessments is monitored.

Changes to operational applications and their supporting systems and networks are planned, developed and implemented in a controlled manner.

The system development methodology takes into account the resilience of the infrastructure and applications which need to be respected for all critical infrastructure components and applications. Compliance to these principles and guidelines is evaluated for every project or change as part of the production acceptance criteria.

Application systems are subject to testing and review in several application environments (integration testing, volume testing, acceptance testing) before they are installed in production. The scope of such testing is defined and the results are reviewed by both technical and business experts.

Once testing is complete, the change is made available for release into the production environment. There is a formal sign off process involving the business management, IT and technical experts to approve change releases. Many key things are checked during the sign off, like:

- the timing of the change
- test results
- customer and user readiness
- risk of other interfering activities
- particular risk areas
- the availability of support expertise after the launch
- preparedness to back-out the change in case of problems, etc.

We apply a 'release approach', limiting the number of releases. Therefore, a release may contain several application changes. Only a limited number of authorised individuals, independent from the development team, are able to implement such approved changes, thereby leaving an audit trail of transfers into production.

Key consideration 2

An FMI's board of directors should clearly define the roles and responsibilities for addressing operational risk and should endorse the FMI's operational risk-management framework. Systems, operational policies, procedures, and controls should be reviewed, audited, and tested periodically and after significant changes.

Roles, responsibilities and framework

Since Risk Management (including operational risk management) and IT are centralised in ESA, both ESA and EUI have certain responsibilities for operational risk (although EUI remains ultimately responsible as the operator of the CSD).

EUI level

The EUI Board is the ultimate decision making body of EUI.

To perform its responsibilities more efficiently, the Board has established a number of committees for which the Board has defined Terms and references, including the roles and responsibility of each committee.

The Audit and Risk Committee (ARC) is an advisory committee that helps the Board to fulfil the following responsibilities:

- oversight of the quality and integrity of the accounting, auditing and reporting practices
- reviewing the effectiveness of internal control and risk profile
- monitoring management systems
- the appointment of the external auditor as well as its independence
- the approval of annual internal and external audit plans

The ARC receives input from the internal audit, compliance and risk management functions, and at least once a year verifies whether or not those functions are working effectively.

EUI Executive Committee (ExCo) is responsible for:

- ensuring that line managers take the responsibility for managing risks and control functions within the organisation's business operations as the '1st line of defence'
- ensuring that sufficient resources are allocated to the risk management, finance and compliance functions, who act as the '2nd line of defence', and who also provide the frameworks for the management of risks, such as policies
- ensuring compliance with policy documents, as well as with local laws and regulations
- reporting to their Board on risk matters and control gaps and about significant actions taken to mitigate detected gaps without delay

EUI ExCo is assisted by a local Risk and Operating Committee to assist in the performance of its duty.

Euroclear group level

The Euroclear SA/NV board has several committees: among them an Audit Committee, a Risk Committee and a Management Committee with similar responsibilities (for Euroclear SA/NV) as described above.

A group Risk Committee (where all (I)CSDs of the group are represented) has been set up by Euroclear SA/NV Management Committee to assist in assessing group -related risks.

Euroclear SA/NV has a Risk Management Division, responsible for the following generic types of activity for each of the risks it covers:

- **Risk Policy Setting;** definition of the corporate rules of conduct relating to those risk areas where a violation of the corporate policy may lead to (i) severe losses affecting the creditworthiness of each company of the group; (ii) permanent damage to its reputation or (iii) unacceptable levels of systemic risk
- **Risk Assessment & Measurement;** i.e. tools and methods for risk definition and measurement; identification and assessment of the various risk exposures, their likelihood of occurrence and the required loss absorption capacity
- **Risk Advice;** expert impartial risk advice
- **Risk Monitoring;** follow-up of exceptions, action plans, new products and changes in risk profile; independent oversight over the various risk portfolios and reporting to the appropriate levels (local and group)
- If needed, **escalation of material risk issues** to the various Management Committees and Board Risk Committees or local Audit and Risk Committees

Risk Management acts independently from other functions in the group and reports to the group CEO. It is headed by the Chief Risk Officer (CRO) who is also a member of the Management Committee of Euroclear Bank and a permanent invitee to the Management Committee of Euroclear SA/NV. The CRO has direct access to the chairman of the Risk Committee. Corporate risk managers have been assigned to address the risks of each Euroclear entity and are supported by the Risk Management Division of the group, who develops for instance the risk management framework, capital modeling and data support.

The Risk Management division ensures that risks are known and understood by management. They escalate material risk issues to the appropriate level to ensure that management, the Board, the Audit or Risk Committee are aware of:

- the emergence of new risks
- the evolution of identified risks
- any cases where the mitigating actions for an existing risk may be:
 - insufficient in scope or
 - put in place later than originally intended

The Risk Management division regularly reports on operational risk, tailoring its reports to the audience (group or local audit and risk committees and management committees).

The parent company's Euroclear SA/NV Board has approved the Corporate Risk Board Policy which defines the risk management framework. The effective implementation and monitoring of this board policy is delegated to the Euroclear SA/NV Management Committee. It reviews the effectiveness and efficiency of the Risk management framework and operational risk framework, including through effective and comprehensive independent audit review, and ensures that it evolves to meet strategic needs and compliance requirements.

When senior management reviews these documents, they consider whether any material information, for example regarding major changes in risk management framework, necessitate changes to this document. Senior management will report on its findings to the Board and, where appropriate, recommend amendments to this document to the Board.

Euroclear has started to update its Risk Management framework to ensure compliance with the up-coming CSD Regulation.

Review, audit and testing

Control objectives are assessed continuously as part of the bottom-up business control and monitoring processes, reported and discussed in management performance meetings at different levels in the organisation (from Lean whiteboards monitoring to reviews by the operational risk committees and management committees of the group).

They are also collectively reviewed top-down through the regular Positive Assurance Report (PAR) self-assessments. To prevent that these regular self-assessments become routine exercises, Risk Management ensures that, at least once a year, they are performed with the right mix of people around the table (different layers in the organisation, representatives of quality assurance teams, Risk Management, and any other relevant party) and ensure systematic availability of comprehensive material (the PAR, near misses, losses, incidents, control maps, accepted risks, risk management reports, internal audit reports, and ISAE 3402).

The PAR of the different entities and divisions of the company demonstrate that controls are adequate and effective or not. A summarised view by division/entity, the Assurance Map and the most important control weaknesses and the related action plans are pulled together for the ICS report. Risk Management stores the PARs twice a year and coordinates the production of the reports.

The mission of the Internal Audit Division (IA) is set out in the Internal Audit Charter approved by the Senior Management and the ARC/Board, as providing reasonable assurance, in an independent and objective way, on the adequacy and effectiveness of the group's system of internal controls to support the Board and senior management of each Euroclear entity in reaching their objectives. IA has set up a comprehensive audit universe, including all processes carried out by the group, whether directly or outsourced.

Each quarter, a rolling-forward plan for the next six quarters is produced on the basis of risk and control assessments (RCA) which determine the need, scope and depth for audits ('risk-based audits'). In any case, a full scope audit is performed on each line of the Audit Universe at least every three years ('rotational audits'). The quarterly Plan, with both risk-based and rotational audits, is presented and approved by the Management Committee and by the Audit Committee.

The operational risk management framework is subject to both internal audits, within the framework described above, and to external audits, by the company's external auditor.

EUI yearly publishes an ISAE 3402 Report. This report provides substantive information on controls and operating procedures. EUI has invited an independent audit firm to confirm the operating effectiveness of its controls. The verification of these controls demonstrates that effective risk management is practiced in the daily provision of new and existing operational services.

Key consideration 3

An FMI should have clearly defined operational reliability objectives and should have policies in place that are designed to achieve those objectives.

The Euroclear group sets out the high-level objectives for the organisation, including those related to operational reliability. All day-to-day activities and projects have to be related and

contribute to the achievement of these high-level objectives, both on a group and local level. Operational reliability objectives are defined in this context, at different levels.

The following are two examples of high-level qualitative objectives, defined in the risk register:

- Euroclear delivers operational services that meet clients' expectations and maintains robust service resilience
- Euroclear operates its systems to achieve defined service levels appropriate to the business application

Qualitative objectives are, for example, stated in management resolutions and in implementing procedures, which are governing documents on a more detailed level, established within the policy framework and published on the Intranet, for employees. Further quality statements can be found in the sets of control objectives used and within the departments' own internal process and standards documentation.

Quantitative reliability objectives are primarily defined by the business owners and are manifested in informally documented SLAs.

Euroclear's controls maturity model and self-assessment guidelines are used to assess the sustainability of the control environment. Control activities are evaluated against a spectrum of maturity attributes. It provides Euroclear with a snapshot of where control activities stand at a particular point in time relative to a standard rating scale. The controls maturity model helps management assess the effectiveness of controls, provides a measure of sustainability over time and enables Euroclear to assess progress in enhancing the ICS over time.

Internal assessments, client interactions and surveys, as well as the monitored track record of operational reliability and follow-up of all incidents, are also used by the management to assess whether the achieved levels are matching the set requirements.

In working towards its corporate objectives, Euroclear faces a range of risks. The Risk Register categorises and defines these risk types and identifies where they exist within the group.

The Risk Register is supported by high-level control objectives, established by the Management Committee to mitigate the risks in the Risk Register. These high-level control objectives encompass all high-level processes that need to be realised effectively, to allow individual business areas to achieve their business objectives. Control objectives provide guidance to the organisation on the expected level of internal control in each entity and division of the group. Each of the delivered services has a senior business management owner who is accountable for ensuring that risks are appropriately mitigated.

The high-level control objectives are supported by level-two control objectives, agreed to with business management. They explain in greater detail how business areas can achieve their high-level control objectives.

The level-two control objectives are supported by the implemented controls and control processes. The control objectives are the foundation of the Euroclear group internal controls system.

Controls have been built into business processes and their effectiveness is challenged continuously through day-to-day management actions, self-assessments of business risks and controls – including a review of risk and control issues by management – and independent reviews carried out by Internal Audit.

The majority of operational risk processes are frequent and recurring activities. These processes are updated on a regular basis.

The control objectives are the basis of the annual risk and control self-assessments. These qualitative self-assessments and the complementary quantitative self-assessments are key components of the risk management framework.

The Euroclear group sets out the high level objectives for the organisation, including those related to operational reliability.

All EUI's day-to-day activities and projects have to be related and contribute to the achievement of these high level objectives. The services operate with a high degree of straight-through processing both for internal operations and client service facing functions.

Operational reliability objectives are defined in this context, at different levels.

Two examples of high level qualitative objectives, defined in the risk register, are the following:

- Euroclear delivers operational services that meet clients' expectations and maintains robust service resilience
- Euroclear operates its systems to achieve defined service levels appropriate to the business application.

Controls have been built into business processes and their effectiveness is challenged continuously through day-to-day management actions, self-assessments of business risks and controls – including a review of risk and control issues by management – and independent reviews carried out by Internal Audit.

Finally, all objectives are translated into clearly measurable goals in key areas, such as through a balanced scorecard.

Key consideration 4

An FMI should ensure that it has scalable capacity adequate to handle increasing stress volumes and to achieve its service-level objectives.

Capacity Management is in place to ensure that IT capacity meets current and future business requirements. There is a continual monitoring of defined infrastructure services (daily review and dashboards), to identify potential issues ahead of time. Actions are taken to increase capacity (or rebalance workload) as thresholds are approached.

Capacity monitoring and management are part of the applied ITIL framework and are included in the risk-based internal audit universe.

Capacity management is in place within the project lifecycle, to define capacity requirements for new infrastructures and support performance testing within projects.

Key consideration 5

An FMI should have comprehensive physical and information security policies that address all potential vulnerabilities and threats.

Physical security

The Euroclear group-wide Operational Risk Board Policy comprises policy goals for Corporate and Information security. Therefore, identifying, monitoring, assessing, and managing the full range of physical vulnerabilities and threats on an on-going basis is part of the operational risk management framework.

More detailed procedures have been defined at entity level to take into account the local specificities. The objective is to prevent unauthorised physical access, damage and interference to business premises and information and to prevent loss, damage, theft or harm to assets (including personnel) and interruption to Euroclear's activities. Critical or sensitive business information processing facilities should be housed in secure areas, protected by a defined security perimeter, with appropriate security barriers and entry controls. They should be physically protected from unauthorised access, damage and interference.

The physical security takes into account general best practices, both as defined by the parent group and as recommended by international standards like ISO 27000 and by local authorities, recommendations and legislation. Euroclear is also complying with insurance company recommendations.

When compliance with any security standard outlined in the Physical Security Implementing Procedure is not achieved, a formal risk assessment is to be made and an exception is reported either for mitigation or for acceptance by senior management.

Change-management and project-management policies and processes require that physical security related risks are identified, assessed and mitigated in compliance with the physical security implementing procedures.

Information security

Consistent with Basel II, Information Security risks are a component of Operational Risk.

Therefore, the Euroclear group-wide Operational Risk Board Policy is also applicable for identifying, monitoring, assessing, and managing the full range of information security vulnerabilities and threats on an on-going basis. Information security is defined within this policy as the protection of critical assets, by preserving their:

- confidentiality: ensuring that information is accessible only to those authorised to have access and is not misused
- integrity: safeguarding the accuracy and completeness of information
- availability: ensuring that authorised users have access to information when they need it
- compliance: ensuring that relevant legal and regulatory requirements in relation to the protection of information are adhered to

Under the group policy mentioned above, an Information Security Management System (ISMS) has also been implemented. This Management Resolution:

- describes how information security (IS) within Euroclear group and locally is organised, managed, implemented and monitored
- outlines the roles and responsibilities for information security
 - group's Chief Security Officer
 - Domain Security Managers / responsible (entity level)
 - Data Protection Co-ordination Officer and Data Protection Officers
 - IT Security Operations / IT Security Architecture
 - group Risk Committee / Local security and operating Committees
- translates the Board's intent, as described in the Operational Risk Board Policy, into more detailed IS control principles and measures, to protect Euroclear's and clients' critical assets. Information security is addressed through the implementation of controls in four domains:

- o physical and environmental security
- o personnel security
- o logical security
- o business continuity management

The Chief Security Officer heads a group Business Resilience and Information Security team in the Risk Management division. The Chief Security Officer is responsible for developing and maintaining the policies, standards, processes and procedures that together form the ISMS.

Through this process, the Chief Security Officer defines the standards to which the Information Technology Security Management department, part of the Corporate Technology division, operates with regard to information security. This department is responsible, with the help of the Technical Domain Owners and System Engineers, for designing and defining an adequate and effective IT security environment, consisting of technical architecture, standards, tools, processes and services. The daily operational control of these security measures is also under the responsibility of the Information Technology Security Management department.

The Management Committee of each group entity retains responsibility for monitoring and overseeing policies, issues and exceptions that are relevant to the entity and report any relevant issues to the Business Resilience and Information Security team. The staff also reports any issue to the BRIS that then does a report to management.

The formal policies and standard procedures governing Information security are based on internationally-recognised control standards, such as the ISO/IEC 27000:2005 series, BS25999-2:2006, ISO IEC 31000, COBIT and ITIL.

In addition, where personal or sensitive personal data is concerned, Euroclear is guided by the EU Directive and relevant national legislation.

Euroclear's project management framework mandates risk assessments to be done before implementation starts and before delivery to production. At these check points, information security requirements and residual risks are assessed and appropriate mitigation actions are initiated, if needed. Projects are approved either by the EUI delivery services portfolio or in other relevant portfolios where an EUI representative is present. The EUI portfolio also pre-screens all project approval documents even if they are formally approved in another portfolio. All projects perform an assessment of risks as part of the project methodology. In addition, EUI identifies projects with significant impacts and performs a Business impact analysis which is presented to the EUI ROC.

All changes to the production environment (hardware, software and network devices) need to be formally approved before implementation. Changes to the production environment are only

made subject to a standardised process, including specific controls to minimise the risk of errors or disruptions:

- changes required to hardware, network devices and software are recorded electronically by raising a change request form, and need to be approved by authorised staff
- a test approach is defined and approved, determining the level of testing appropriate to the change or project
- the production launch process is controlled by a specifically-designated committee (Change Advisory Board) that reviews changes and verifies that an impact analysis was conducted and that all required approvals are present. Formal production acceptance criteria have been established to support the impact analysis by the different domain experts represented in the committee. Documentation evidence and approvals are recorded in the change management system.
- a verification is done to ensure that previously identified needs relating to required user training, changes in operational procedures and other support considerations have been addressed adequately
- a group independent from the development team performs the transfer of source code into the production environment, using automated tools that are only available to authorised individuals
- the tools provide a complete audit trail of all transfers into production

Emergency changes, required in case of system blockage or non-availability, are following strict procedures and authorisation. Changes performed during emergency are reviewed by the domain experts to make sure they are properly documented and can be kept as such.

Internet facing applications are code-reviewed from security and robustness point of view by external expertise before launch. Vulnerability assessment and penetration tests are conducted on a regular basis with the support of specialised providers.

Key consideration 6

An FMI should have a business continuity plan that addresses events posing a significant risk of disrupting operations, including events that could cause a wide-scale or major disruption. The plan should incorporate the use of a secondary site and should be designed to ensure that critical information technology (IT) systems can resume operations within two hours following disruptive events. The plan should be designed to enable the FMI to complete settlement by the end of the day of the disruption, even in case of extreme circumstances. The FMI should regularly test these arrangements.

Objectives of business continuity plan

A formal business continuity framework has been defined that describes roles and responsibilities, and the risk-based approach adopted. It also includes objectives supporting the business targets for the timely resumption of critical operations. The Risk Management Division is responsible for the coordination of the Business Continuity and Disaster Recovery Plans (BCP) across the group.

The Business Impact Analysis (BIA) is the foundation of Euroclear's BCM process.

A formal BIA is used to identify the critical activities and their recovery time objectives for each of the business processes. During the BIA, threats and risks associated with business process interruptions are identified and assessed by determining the effect of loss, interruption or disruption to business on the function of each department, and therefore on the organisation as a whole. The analysis considers both the short and long-term effects of an incident, and identifies dependencies on people, information, technology and facilities. The output of the BIA is used to form the Business Continuity strategy and plans, in accordance with the Operational Risk Board Policy.

Business continuity plans have been developed to cover a number of defined scenarios, including the loss of an office, loss of staff and IT disaster recovery incident. They contain the following elements:

- guidelines on how to use the plan
- the process to alert and activate the crisis management team
- responses and recovery procedures meant to return the business to normal operations following an incident or disaster
- procedures to continue to maintain critical activities following the widespread loss of staff
- communication contact list with stakeholders, employees, key clients, critical suppliers, stockholders and management
- critical contact information on continuity teams, affected staff, clients, suppliers, public authorities and media

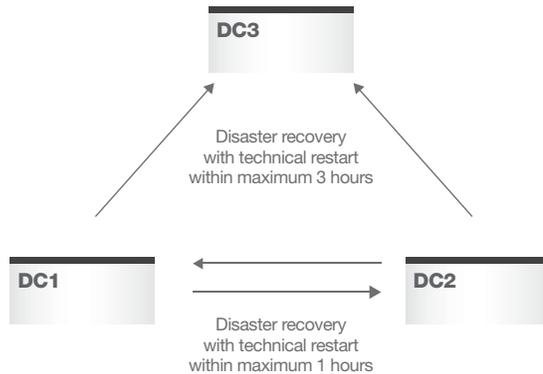
The local senior management committee advises on and approves the business continuity objectives and plans.

Design of business continuity plan

Euroclear has three data centres :

- two nearby data centres (DC1 and DC2) provide real-time synchronised data mirroring and act as the primary and secondary data centre

- a third data centre (DC3), located hundreds of kilometres away from the two synchronised sites, receives asynchronously replicated data. It allows recovery in the event of a regional disaster affecting both other data centres.



A Local Disaster Recovery is declared following any disaster that affects one Data Centre. In such circumstances, for high criticality applications, the Recovery Time Objective is two hours and the Recovery Point Objective is to have zero data loss.

A Regional Disaster Recover is declared following a failure at both primary and secondary data centres. In such circumstances, for high criticality applications, the Recovery Time Objective is four hours. The system development methodology includes principles and guidelines with regard to resilience of the infrastructure and applications that need to be respected for all critical infrastructure components and applications. Compliance to these principles and guidelines is evaluated for every project or change as part of the production acceptance criteria. The core processing systems and networks are designed to provide resilience through the use of mechanisms including mirroring (synchronous) of production data, the use of fault tolerant computers or resolving single points of failure. The provision of the communication lines is split across a number of telecommunications suppliers, thereby providing additional protection against single point of failure.

The objectives of the Business Continuity Management (BCM) implementing procedure are:

- to outline the BCM system which Euroclear operates
- to ensure that Euroclear is prepared to respond to impacts resulting from a disruption to service
- to ensure that all Employees understand their roles and responsibilities when responding to disruptions
- to ensure that BCM is firmly embedded into Euroclear's business culture

Procedures and checklists are maintained and made available in various ways, to enable Duty Managers and Senior Management (Executives and Department Heads) to effectively manage and control the services at all times, also in case of emergency.

'Battle boxes' (Go bags) are also securely stored at external locations, to ensure that the Business Continuity Plan and related procedures are available in case of a potential disaster.

Standard introductory training for new Euroclear staff explicitly covers business continuity in general and personal responsibilities. BCP awareness updates, exercises and training are provided on a regular basis to all Euroclear group staff, using different communication channels and tools.

The core processing systems synchronously mirror production data between the two main data centres. Hence, the status of all transactions is known even in case of a disruption affecting one data centre.

Data Loss Response plans have been developed by Operations specialists, to minimise the impact of data loss while aiming to resume computerised operations in a time period which does not cause unnecessary strain on market stability. In extreme cases, given the imperative of maintaining market stability, it may not be possible to recover 100% of all transactions that were applied to the production system. Therefore, management will monitor reconciliation activities and will resume operations as circumstances dictate.

The Data Loss recovery principles are the following:

- records of transactions held by EUI will be considered by Euroclear to be the 'master' source
- clients will be made aware of any need to evaluate the status of transactions throughout and following recovery

Crisis management

To ensure a systematic and coordinated response to unexpected events, Euroclear established a three-tiered Bronze-Silver-Gold crisis-management structure. These three levels deal with Operational-Tactical-Strategic issues, respectively.

Communication to internal and external parties during and after an incident forms an essential part of the incident response. The Crisis Management teams are required to assess the need for communication and if so, to communicate to clients, clients facing staff, other staff, and, from Silver on, also to regulators and in case of Gold to the press.

Client communication is to be initiated as soon as possible, with a threshold set at 30 minutes after the calling of the Bronze meeting. The Commercial Crisis Management guide also gives guidelines on the message contents. The contents should cover the reason and impact of the problem, contact details, possible mitigating actions by the (I)CSD (such as extension of input deadlines, settlement windows open longer) and the planned timing of the next update until resolution.

Secondary site

Euroclear has implemented a 'dual office' and/or back-up site strategy for staff, with geographically-dispersed business operation sites to limit the risk that a single event will impact a main site and its back up. Business resumption is tested on a regular basis, to make sure that if one site is unavailable, all critical activities can be operated from another site.

Euroclear operates two main data centres fully equipped to provide core critical production services. The sites are linked by real-time synchronous data mirroring and load balanced networks. The critical production services are swapped between these two sites around six times a year, demonstrating their capability to take over production in the event of a disaster impacting any of the data centres.

The network is active/active/active. Client communications are load balanced and therefore do not rely on just one Data Centre for communications in or out. They are automatically redirected to the right server, depending on where the service is running. Virtual IP addressing is used to aid the failover and avoid the need to change IP addresses.

Review and testing

The Business Continuity Policy is reviewed annually and considers changes to Euroclear risk profile, business objectives, operational environment, legal and regulatory requirements and market expectations.

A formal BCP test framework is maintained, indicating how and when each element of the plan is tested. The test framework helps ensure that all elements of the plan are tested periodically.

All departments have at least one nominated BCP contact person, who is responsible for the coordination, maintenance and testing of the BCP within the respective department. The risk management function has the overall role of coordinating and promoting BCP testing and reviews. RM also consolidates management reporting of the testing and its outcome to management, Audit and Risk Committee and to the group. These tests include:

- IT Disaster recovery testing: Production is transferred from data centre one to data centre two at least six times per year and once per year to data centre three

- Office Switch tests, simulating the loss of a single office is organised at least twice per year for each department running any critical function
- several crisis management exercises (alerting tests or desktop or simulation exercises) are organised each year

The BCP solution and recovery plan including the switch of processing between sites is transparent to participants. This means, that although there may be service interruptions, the recovery process is transparent to users, meaning the participants do not know from which of the IT centres the services are provided, or if there was a switch of the processing site during the interruption or not. Therefore, there is not any particular action for a participant to take during a BCP test. (This is the same for all of Euroclear group).

Staff from the outsourcing partner is participating to the tests, as they provide the system operations staff actually performing the tests on our request. Other service providers or linked FMIs do not participate, as the tests have no relevance to them.

Key consideration 7

An FMI should identify, monitor, and manage the risks that key participants, other FMIs, and service and utility providers might pose to its operations. In addition, an FMI should identify, monitor, and manage the risks its operations might pose to other FMIs.

1- Risks to EUI's own operations Providers

The Operational Risk Board Policy defines policy goals for services delivered by third parties and for participant affiliation and monitoring.

For certain aspects of the services offered to participants, Euroclear (I)CSDs use external service providers. The use of services provided by the external parties is governed by local Outsourcing Management resolutions in line with Operational Risk Board policy.

The relationship between EUI and service providers is subject to a formal contract, including service level management agreements even when the provider is an entity of the group Euroclear (common services).

EUI has identified the required roles, and assigned appropriate responsibilities to manage and monitor its service providers. Service delivery is reviewed on a regular basis through Key Performance Indicators. Services are measured and compared with targets, to identify whether the objectives are met, and where applicable, actions to be taken to improve the service. EUI has a Risk and Operations Committee, which receives the KPI reports from ESA. The relationship of the day-to-day service with ESA is managed by the head of CEO Office. The relationships of

EUI's remaining external service partners are managed by the Service Partner Management team.

EUI has signed contracts with different providers, avoiding that the failure of a single provider would put Euroclear operations at risks.

By contract, EUI's auditors have the right to audit the relevant arrangements of the service provider, whether internal or external to the group (for example, FMI).

2- Participants

An operational failure of a large participant or another FMI (such as a CCP) will not pose any significant risks directly to the FMI, but they may pose risks to their counterparties and may pose risks to the efficiency and integrity of the systems, for example, the settlement ratio, and the settlement finality. Such risks are mitigated in several ways, for example, by:

- transparent participant admission criteria and the continued follow-up of these with annual due diligence reviews
- continuous monitoring of system usage by participants and by incitements to participants to follow the established user rules
- offering participant the possibility to use different network providers and communication means

3- Other FMIs

In the framework of its market links, EUI reviews the operational risks aspects of linked (I)CSDs or local custodians used as an intermediary to access foreign markets. See also Principle 20 for more details on the monitoring of links.

Risks posed to other FMIs

By providing (I)CSD services with full delivery versus payment processes, Euroclear entities are reducing the risks encountered by their participants for the settlement of their transactions.

As any FMI and more especially any CSD, if EUI was not available, this would have a significant impact for the market:

- participants (for example, late settlement, potential liquidity issue for participants who were expecting to receive cash)

- other FMIs such as CCP (for example, difficulties to identify margin calls/buy in to be processed)
- central banks (for example, settlement of MMIs, new government bond issues, payment of interests/redemptions, bank liquidity management if the collateral in Euroclear cannot be provided)

To reduce the risks related to interconnectivity with external entities (large participants, central banks, CCP, stock exchanges), EUI participates in a number of national working groups focusing on crisis preparedness and business continuity management. EUI participates in common exercises with the financial sector to test the effectiveness of crisis management and improve crisis management with the financial market.

Principle 18: Access and participation requirements

An FMI should have objective, risk-based, and publicly disclosed criteria for participation, which permit fair and open access.

Key consideration 1

An FMI should allow for fair and open access to its services, including by direct and, where relevant, indirect participants and other FMIs, based on reasonable risk-related participation requirements.

EUI offers membership for corporate entities and individuals. Firms can join as a user and direct member or join as a sponsored member through a sponsoring user. Other categories of participation (with access to a different range of CREST functionality) include registrars, receiving agents, issuer/paying agents, settlement banks and information providers. Private individuals can take up CREST membership, and are referred to as Personal Members. They must access the system through sponsors.

The admission criteria for participants are set out in CREST Rule 1 and CREST Rule 16 (as well as the requirements of the CREST Terms and Conditions).

Access criteria including CREST membership admission and application documents are available on my.euroclear.com.

Key consideration 2

An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI

should endeavour to set requirements that have the least-restrictive impact on access that circumstances permit.

Access criteria are available on my.euroclear.com. There are no differences in the requirements applied to participants, and the same set of terms and conditions apply to all members. Sponsors, registrars and payment banks (and certain other participants) have their own terms and conditions, in line with the CREST functions they access (which are broadly similar to the general member terms and conditions).

As stated in CREST Rule 16, a prospective CREST Settlement Bank has to meet EUI's participation criteria and the requirements set by the existing CREST Settlement Banks. Participation as a CREST settlement bank is also subject to the determination of the Bank of England.

Key consideration 3

An FMI should monitor compliance with its participation requirements on an ongoing basis and have clearly defined and publicly disclosed procedures for facilitating the suspension and orderly exit of a participant that breaches, or no longer meets, the participation requirements.

Monitoring is in place to ensure participants are compliant with CREST requirements, and the CREST Rules and the CREST Terms and Conditions clearly set out procedures to facilitate the suspension and orderly exit of client in breach of their obligations.

Principle 19: Tiered participation arrangements

An FMI should identify, monitor, and manage the material risks to the FMI arising from tiered participation arrangements.

Key consideration 1

An FMI should ensure that its rules, procedures, and agreements allow it to gather basic information about indirect participation in order to identify, monitor, and manage any material risks to the FMI arising from such tiered participation arrangements.

This Principle is addressed from the view of CREST settlement banks and the CREST participants they support. EUI currently has no involvement in, and no rights to collect information regarding, the relationships, business activities and credit arrangements between CREST members and their underlying clients.

System information is gathered on a daily basis, to compile monthly reports on members' settlement activity in the CREST system and the size of credit lines provided by their settlement banks.

The current reporting allows EUI management to monitor and manage material changes to settlement behaviour that could identify a need to manage the tiered participation in the CREST system.

EUI management has introduced a daily measure of tiered activities in the CREST system, which is analysed on a monthly basis, to assess any potential concerns. Any such concerns are then communicated to the regulator and discussions takes place with the CREST participant and settlement bank, to manage any tiering issues.

On a monthly basis EUI analyses the tiering report data and identifies any potential or significantly changed system dependencies between CREST participants and their settlement bank, and vice versa. Any material dependencies and potential mitigating actions are then discussed. This monitoring has identified key clients who may progress to participate directly as a settlement bank. De-tiering actions are also discussed with CHAPS.

Key consideration 2

An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.

See response to Key consideration 1.

Key consideration 3

An FMI should identify indirect participants responsible for a significant proportion of transactions processed by the FMI and indirect participants whose transaction volumes or values are large relative to the capacity of the direct participants through which they access the FMI in order to manage the risks arising from these transactions.

See response to Key consideration 1.

Key consideration 4

An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.

See response to Key consideration 1.

Principle 20: FMI links

An FMI that establishes a link with one or more FMIs should identify, monitor, and manage link-related risks.

Key consideration 1

Before entering into a link arrangement and on an ongoing basis once the link is established, an FMI should identify, monitor, and manage all potential sources of risk arising from the link arrangement. Link arrangements should be designed such that each FMI is able to observe the other principles in this report.

In relation to legal due diligence, see response below in relation to Key consideration 5. A full review of EUI's three CSD links will be undertaken in 2017.

An interdependencies report is in place that details all services with third parties/FMIs, the potential risks that could occur and the contingency arrangements and procedures that are in place. This report is reviewed by the Executive Committee at the quarterly Exco & Risk committee meeting..

Key Consideration 2

A link should have a well-founded legal basis, in all relevant jurisdictions, that supports its design and provides adequate protection to the FMIs involved in the link.

CREST operates cross-border links with DTCC, Euroclear Bank (for free of payments transactions) and SIS (for FoP and DvP transfers). CSDs can establish their own links and participate in the CREST system, provided they meet the membership criteria as defined in CREST Rule 1. They are treated as standard participants by EUI.

The international settlement links to Euroclear Bank and DTCC enable CREST members to hold and settle transactions in international securities, but do not enable them to deliver CREST securities to participants in those CSDs or receive CREST securities from them.

The international settlement link to SIS enables the settlement between CREST members and SIS participants and participants in CSDs with which SIS has links of Swiss securities, as well as a wide range of international securities and CREST securities.

Links arrangements are described in the CREST International Manual, which forms a part of the CREST Manual and are subject to specific terms and conditions.

Key consideration 3

Linked CSDs should measure, monitor, and manage the credit and liquidity risks arising from each other. Any credit extensions between CSDs should be covered fully with high-quality collateral and be subject to limits.

Credit and liquidity are not extended by or to EUI by the CSDs with which it has links.

Key consideration 4

Provisional transfers of securities between linked CSDs should be prohibited or, at a minimum, the retransfer of provisionally transferred securities should be prohibited prior to the transfer becoming final.

There are no provisional transfers within any of the links, and consequently all transfers into or out of the CREST system via these links are final and irrevocable.

Key consideration 5

An investor CSD should only establish a link with an issuer CSD if the arrangement provides a high level of protection for the rights of the investor CSD's participants.

Links arrangements are described in the CREST International Manual, which forms a part of the CREST Manual.

EUI conducts legal due diligence before establishing a link. Establishing when transactions are final is a central element of this process, as well as operational and risk management issues. Legal due diligence for all three links is currently being reviewed as part of the 2017 links assessment.

Key consideration 6

An investor CSD that uses an intermediary to operate a link with an issuer CSD should measure, monitor, and manage the additional risks (including custody, credit, legal, and operational risks) arising from the use of the intermediary.

EUI participates directly (through the use of wholly owned subsidiaries) in the three CSDs with which it has links.

Key consideration 7

Before entering into a link with another CCP, a CCP should identify and manage the potential spill-over effects from the default of the linked CCP. If a link has three or more CCPs, each CCP should identify, assess, and manage the risks of the collective link arrangement.

Not applicable to EUI.

Key consideration 8

Each CCP in a CCP link arrangement should be able to cover, at least on a daily basis, its current and potential future exposures to the linked CCP and its participants, if any, fully with a high degree of confidence without reducing the CCP's ability to fulfil its obligations to its own participants at any time.

Not applicable to EUI.

Key consideration 9

A TR should carefully assess the additional operational risks related to its links to ensure the scalability and reliability of IT and related resources.

Not applicable to EUI.

Principle 21: Efficiency and effectiveness

An FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.

Key consideration 1

An FMI should be designed to meet the needs of its participants and the markets it serves, in particular, with regard to choice of a clearing and settlement arrangement; operating structure; scope of products cleared, settled, or recorded; and use of technology and procedures.

The Euroclear group is user-owned and user-governed and operates in a competitive environment, so it must meet the needs of its participants and the markets it serves.

For each country where an entity of the Euroclear group acts as CSD, the group has established user committees, known as Market Advisory Committees (MACs). The MACs are a primary source of feedback and interaction between the Euroclear group and the user community on all significant matters affecting their respective domestic markets. The terms of reference of each MAC will be reviewed as part of the ongoing preparation for CSDR.

Regular day-to-day contact is maintained with clients by commercial, service partner management and operational teams. In addition to the day-to-day contacts with its clients, EUI

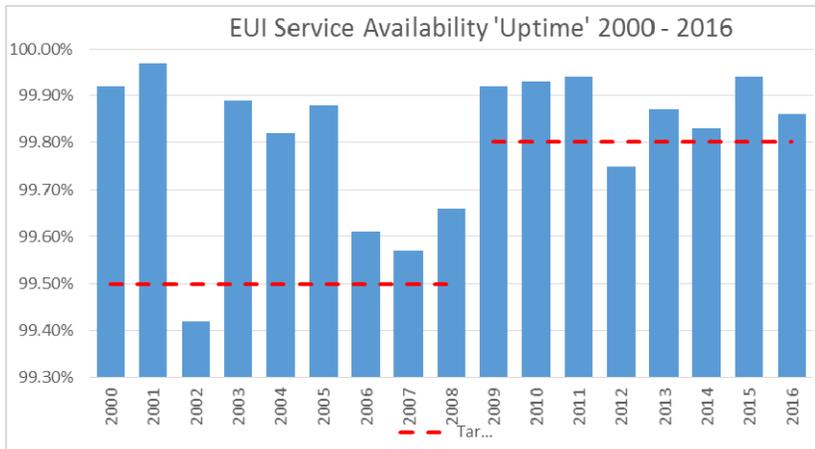
also monitors the evolutions in client demands and conducts an annual client survey to receive feedback on its performance and client perception of its business. All participants are encouraged to participate and complete the survey which covers topics such as EUI approach to the market, product and service satisfaction, operational satisfaction and ease of doing business with EUI. Results from the survey are transparent and presented on aggregated level at membership meetings in addition to being discussed at the MAC and in more detail during bilateral client meetings throughout the year. The purpose is to capture specific needs by the market or participants. The EUI Client Survey is used as a feedback and benchmark tool in terms of how well EUI performs. The survey not only allows EUI to evaluate its performance against the markets it serves but also against all other Euroclear entities. Currently the trend is positive and customer satisfaction is increasing.

All significant developments and changes to systems, services, rules, terms and conditions and tariff are discussed with relevant participants and other stakeholders and where relevant subject to publicly available consultations.

Key consideration 2

An FMI should have clearly defined goals and objectives that are measurable and achievable, such as in the areas of minimum service levels, risk-management expectations, and business priorities.

In the area of minimum service levels, the 99.80% uptime target for EUI's systems is one of the main objectives. This statistic takes into account system unavailability due to operational incidents. The graph below gives an overview of the system availability from 2004 until Q3 2016. This objective is monitored not only by EUI, but also by the regulators of EUI on a quarterly basis.



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See also below response in relation to Key consideration 3.

Key consideration 3

An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.

EUI operations and EUI Executive Committee monitors EUI's efficiency and effectiveness (including financial, business, operational, risk and other objectives) and various Key Performance Indicators and Key Risk Indicators on an ongoing basis. Every year efficiency and effectiveness are evaluated by the participants in the client survey.

Principle 22: Communication procedures and standards

An FMI should use, or at a minimum accommodate, relevant internationally accepted communication procedures and standards in order to facilitate efficient payment, clearing, settlement, and recording.

Key consideration 1

An FMI should use, or at a minimum accommodate, internationally accepted communication procedures and standards.

EUI uses internationally accepted communications standards including ISO message formats and ISINs as identifiers. EUI operates on a full STP basis, including ISO 15022 messaging for functions where such messaging exists. The CREST system is a functionally rich, and many of the functions are not covered by ISO 15022, so in such cases, proprietary (CREST DEX) messaging is used (ISO 7775).

EUI has maintained regular consultation with users about a more general move from proprietary messaging to ISO standards over the coming years, considering both the functions already/partly supported by ISO messaging and those that are not.

EUI is not yet fully ISO compliant in the area of corporate actions ISO 15022 standards, but it has and will continue to invest to become more compliant in line with Securities Market Practice Group recommendations.

Principle 23: Disclosure of rules, key procedures, and market data

An FMI should have clear and comprehensive rules and procedures and should provide sufficient information to enable participants to have an accurate understanding of the risks, fees, and other material costs they incur by participating in the FMI. All relevant rules and key procedures should be publicly disclosed.

Key consideration 1

An FMI should adopt clear and comprehensive rules and procedures that are fully disclosed to participants. Relevant rules and key procedures should also be publicly disclosed.

Euroclear UK & Ireland (EUI) has clear and comprehensive rules, procedures and information regarding systems and services all of which are publicly available. EUI's rules and procedures are contained in the CREST Manual, CREST Rules and the CREST Terms and Conditions. These documents are publicly available on my.euroclear.com. There are additional contracts in relation to certain aspects of EUI's services, such as payment arrangements.

Processes for changing the CREST Manual, CREST Rules and CREST Terms and Conditions are set out in the CREST Manual and the CREST Terms and Conditions.

Key consideration 2

An FMI should disclose clear descriptions of the system's design and operations, as well as the FMI's and participants' rights and obligations, so that participants can assess the risks they would incur by participating in the FMI.

The design and operational processes of the CREST system are set out in the CREST Manual and Data Exchange Manuals. CREST White Books describe proposed developments relative to the evolution of services and activities. These documents are publicly available.

The CREST Manual describes automated and manual operations carried out by the CREST system and EUI in providing systems and services to participants.

Information on rights, obligations and risks of participants are set out in the CREST Manual and the CREST Terms and Conditions.

Key consideration 3

An FMI should provide all necessary and appropriate documentation and training to facilitate participants' understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.

Rules, procedures and a full description of the CREST system and services are contained in the CREST Manual, CREST Rules and CREST Terms and Conditions. General and bespoke training is provided to participants on request.

Key consideration 4

An FMI should publicly disclose its fees at the level of individual services it offers as well as its policies on any available discounts. The FMI should provide clear descriptions of priced services for comparability purposes.

EUI's fees are made publicly available via the Tariff Brochure which provides a full description of the services and pricing. Full details of individual tariff IDs and individual prices are also available to participants.

Changes to services and fees are subject to consultation, in accordance with provisions set out in the CREST Terms and Conditions and the CREST Manual.

Communications arrangements are provided by third party network providers. Costs and requirements are available from those third party providers.

Key consideration 5

An FMI should complete regularly and disclose publicly responses to the CPSS-IOSCO disclosure framework for financial market infrastructures. An FMI also should, at a minimum, disclose basic data on transaction volumes and values.

Each year, EUI publishes:

- a Disclosure Framework Report (formally in accordance with ESCB/CESR recommendations, now in accordance with 2012 CPMI-IOSCO FMI Principles)
- a ISAE 3402 Report (previously SAS70)

CREST Rules, Manual and Terms and Conditions, along with Data Exchange Manuals, White Books, consultations and other information regarding services are available on the my.euroclear.com.

Each month, EUI publishes a statistical report that provides system values and volumes for settlement data and market activity. This report is publicly available on my.euroclear.com.

Principle 24: Disclosure of market data by trade repositories

A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

This Principle is not applicable for EUI.

4. Annex of additional publicly available resources

The main sources of information are:

- CREST Manual, including the CREST Rules
- CREST Terms and Conditions and other contracts with participants
- Other documentation available on my.euroclear.com, including the CREST Data Exchange Manual, CREST White Books and Tariff Brochure
- EUI Memorandum and Articles of Association
- Board and associated Committee Terms of Reference
- Board Policies and associated procedures, in particular the Operational Risk Board Policy and associated Enterprise Risk Framework documentation
- Legislative and regulatory provisions, as detailed in this Disclosure Framework report