



# Euroclear Finland

Disclosure Framework

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## **Euroclear Finland disclosure**

Responding institution: **Euroclear Finland Ltd.**

Jurisdiction(s) in which the FMI operates: **Finland**

Authority(ies) regulating, supervising or overseeing the FMI:

- Bank of Finland (relevant authority)
- Finnish Financial Supervisory Authority (competent authority)
- Ministry of Finance (competent authority authorising the CSD)

The date of this disclosure is 3.12.2018

This disclosure can also be found at **[www.euroclear.com](http://www.euroclear.com)**.

For further information, please contact **[communications@euroclear.eu](mailto:communications@euroclear.eu)**.

### **I. EXECUTIVE SUMMARY**

Euroclear Finland ("EFi" or "Euroclear") is a Finnish central securities depository ("CSD") and settlement organization operating under Finnish law and supervised by the Finnish Financial Supervisory Authority ("FSA", *Finanssivalvonta* in Finnish) and the Bank of Finland (relevant authority). Ministry of Finance is the competent authority granting the CSD license.

It should be noted, for the purpose of this document, that the Central Securities Depository Regulation ("CSDR") introduces a common authorisation, supervision and regulatory framework for EFi with certain additional national legal requirements applicable to a Finnish CSD.

The CSDR came to force in 17 September 2014 with requirement to apply for a CSDR compliant authorisation in accordance with level II requirements as published 10.3.2017. Extensive work has been undertaken by EFi to apply for the new authorisation after March 2017 and will also continue to ensure that all aspects of our business fully comply with the new detailed regulatory requirement. For the purposes of the Disclosure Framework, the statements are in force and applicable as of May 2018 unless otherwise stated or implied.

Euroclear Finland operates a reliable, effective, low risk and efficient securities settlement system ("SSS") and has a sound legal basis and adequate governance arrangements to run its operations. Its systems, procedures and risk management framework allows EFi, its participants, issuers and other clients to deal with the various risks they face in operating and using the system with robust and effective rules and procedures are in place to handle default events. As a CSD, EFi is a core component supporting financial markets and 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.

EFi's Board and management ensure EFi maintains a low risk profile. This is achieved through a cautious business model and strong risk management practices (including conservative policies and proven methodologies) maintaining system availability as primary business aim.

## **II. SUMMARY OF MAJOR CHANGES SINCE THE LAST UPDATE OF THE DISCLOSURE**

The Disclosure Framework has gone through significant review and been amended to implement changes deriving from CSDR and national legislation.

## **III. GENERAL BACKGROUND ON THE FMI**

EFi provides post-trade services to a variety of domestic and foreign clients. Services include clearing and settlement of securities' transactions, corporate action processing, account and asset management and issuer services. Additionally EFi provides shareholder information services and information on securities and corporate actions to the market.

The main risk type for EFi is operational risk. The framework in place allows EFi to track its full range of risks and to present a consolidated view of the risks to management and the Board. The Disclosure Framework provides information on EFi's adherence to international standards and market practice and is sufficiently efficient and effective in meeting the requirements of its participants and the markets it serves.

EFi has clear and transparent rules as ratified by the Ministry of Finance and procedures in place to run its operations, support the stability of the broader financial system and to monitor, manage and minimize the risks involved. A clear business continuity management exists and EFi has a profound set of policies, procedures, and controls to support its operation.

The main business services offered by EFi are summarised below:

- Real-time settlement with legal finality, of a range of equity, debt securities and money market instruments
- Settlement in EUR with BIS Model 1 delivery versus Payment
- Corporate actions processing in central bank money in Infinity system (commercial bank money is use for equity market payments) with reporting to participants and authorities
- Fully dematerialised holdings of all securities
- General meetings and information services
- New issue services, allocation and management of ISIN codes and acts as the national numbering agency
- Establishing and maintaining CSD links
- Providing reporting, information, data and statistics

#### IV. PRINCIPLE-BY-PRINCIPLE SUMMARY NARRATIVE DISCLOSURE

### ***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.**

#### **Euroclear Finland's role and applicable legislation**

Euroclear Finland ("EFi") is authorized as a central securities depository and a settlement organization in Finland. Both licenses are granted by the Finnish Ministry of Finance in accordance with the Act on Book-Entry System and Settlement Operations (348/2017, hereinafter 'ABESO'). Euroclear Finland is supervised by the Financial Supervisory Authority and subject to oversight by the Bank of Finland.

It should be noted that the Central Securities Depository Regulation ("CSDR") introduces a common authorisation, supervision and regulatory framework for EFi with certain additional national legal requirements applicable to a Finnish CSD. EFi is filing for its CSDR compliant authorisation from the Ministry of Finance in the course of 2018. Until the decision is made under CSDR on the authorisation, EFi will continue to apply the respective national rules on its existing authorisation and national legal requirements.

Euroclear Finland maintains the book-entry system in Finland consisting of book-entry accounts, beneficial owners and other rights holders and book-entry form securities and offers services related to the book-entry system's operations. Euroclear Finland doesn't offer services related to physical securities. Euroclear Finland is also a settlement organization maintaining the clearing and settlement system for book-entry securities. The operations of Euroclear Finland are strictly defined and limited in applicable regulation and thus the extension of Euroclear Finland's operations is only possible in the remit of legislation and Euroclear Finland's license.

Euroclear Finland is obliged to maintain Rules that are ratified by the Ministry of Finance. Also Bank of Finland and the Financial Supervisory Authority are consulted before the ratification. The contents of the Rules are defined in the ABESO, Netting Act and CSDR. Furthermore Euroclear Finland may give additional detailed CEO's decisions that apply to the operations covered in the Rules. Euroclear Finland consults participants, issuers and other stakeholders on any changes to the Rules and CEO's decisions before changes are introduced.

The Rules cover, together with the legislation listed below, a high degree of certainty to the rights and interests in book-entry securities (ABEA and Rules), settlement finality (Netting Act and Rules), dematerialization (ABEA, ABESO and Rules), settlement (ABESO, Netting Act and Rules) and default procedures (Netting Act, Bankruptcy Act, Rules).

The following laws apply to Euroclear Finland and CSD operations:

- Regulation (EU) No 909/2014 of the European Parliament and of the Council of 23 July 2014 on improving securities settlement in the European Union and on central securities depositories and amending Directives 98/26/EC and 2014/65/EU and Regulation (EU) No 236/2012 (“CSDR”)
- Act on Book-Entry System and Settlement Operations (348/2017, “ABESO”)
  - o Access criteria for CSDR participants and issuers
  - o National requirements on CSD license and operations
- Act on book-entry accounts (827/1991, “ABEA”)
  - o Operations of the book-entry system, book-entry accounts, rights holders and owners and legal effects of registrations
- Act on Certain Conditions of Securities and Currency Trading as well as Settlement Systems (1084/1999, “Netting Act”) and other insolvency related regulations (e.g. Bankruptcy Act 120/2004)
  - o Security of settlement operations in case of participant’s insolvency and systemic risk management
- Applicable regulation to instruments issued in the book-entry system (such as Securities Markets Act (746/2012), Limited Liability Companies Act (624/2006), Act on Cooperatives (421/2013), Promissory Notes Act (622/1947))
  - o Maintenance of book-entry securities
- Preparedness Act (1552/2011)
  - o Preparedness to national emergency situations
- Personal Data Act (523/1999)
  - o Handling of personal data
- Act on Financial Supervisory Authority (878/2008)
  - o Supervision of the CSD
- Act on the Bank of Finland (214/1998)
  - o Oversight of the CSD

### **Relevant jurisdictions**

The most relevant legal jurisdiction for all material aspects of Euroclear Finland activities is Finland. Foreign law affects Euroclear Finland indirectly when a participant is a foreign entity and when foreign securities are incorporated into the Finnish book-entry system.

In case of foreign participants, the actual location or place of incorporation of participants is relevant in case of insolvency or resolution proceedings affecting those participants. The effect of foreign legislation is evaluated on the basis of legal opinions required from the applicant before participation is granted. The legal opinion shall consist of an evaluation on any obstacles that resulting from applicant’s national law of the applicant preventing it to comply with Euroclear Finland’s Rules or decisions or the participation agreement. The participation agreement is a private law contract governed by Finnish law.

Foreign securities may be incorporated into the Finnish book-entry system by means of a link between the CSDs, direct issuance of the securities or with depository receipts. In all these situations it’s Euroclear Finland’s obligation to ensure that the foreign security may be processed in the Finnish book-entry system in accordance with Finnish property law. The issuer and the security are subject to foreign

law, resulting in practice that corporate actions should be able to be processed in accordance with the foreign law requirements. The compliance is ensured by requiring a legal opinion from the issuer.

## **Dematerialization**

Euroclear Finland processes exclusively dematerialized securities and transfers by book-entry.

The ABESO defines a book-entry security as civil right security that may be a share to a company or cooperative, other right, financial instrument or corresponding right or any other security incorporated into the book-entry system. In the dematerialized book-entry system, a book-entry account is the unit of registration of rights pertaining to securities credited in the account. The legal effects of the accounts incorporated in the book-entry system and of the entries made in these accounts are governed by the ABEA. In the Finnish book-entry system, the book-entry accounts are managed by the Account Operators.

The dematerialized issuance of securities is further described, specified and regulated by Euroclear Finland's Rules and CEO's decisions applicable to issuance.

## **Finality**

Euroclear Finland is defined as a designated system under the Settlement Finality Directive. The Netting Act together with ABEA and Euroclear Finland's Rules governs the moment of entry, irrevocability of a transfer order and finality of transfer.

*Moment of entry* is the moment when a transaction has been entered into the CSD system and has passed technical validation.

Transaction is *irrevocable* when it has been matched. A matched transaction is binding on the participants in accordance with the terms and conditions of the transaction.

Transaction is *final* when the securities relating to a transaction have been registered into the book-entry account of the receiver as indicated in the transaction data and the purchase price has been credited to the participant acting on behalf of the seller (if the transaction is to be settled against payment).

**Key consideration 2: An FMI should have rules, procedures, and contracts that are clear, understandable, and consistent with relevant laws and regulations.**

Any amendments to Euroclear Finland's Rules and CEO's decisions are consulted with participants and other stakeholders (authorities, market place, and interest groups). If amendments stem from market development the process is preceded by working groups that consist of participants and issuers when relevant.

The contents of the Rules of Euroclear Finland are strictly regulated in the ABESO, Netting Act and CSDR and require board approval and ratification by the Ministry of Finance to enter into force. The Ministry of Finance has not found inconsistencies with applicable legislation in the Rules of

Euroclear Finland in force.

Participation agreements' amendments are subject to EFi's Executive Committee approval and been subject to internal scrutiny prior to implementation. Main requirement included in the agreement is to comply with the applicable legislation and EFi's Rules to ensure that all participants are treated in the same manner and are subject to same rights and obligations towards other participants, issuers and the CSD.

Rules and decisions are available for the general public on Euroclear's website. Participation agreements are available upon request.

**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.**

The legal basis of Euroclear Finland's activity is essentially articulated in

- Euroclear Finland's Rules,
- CEO's decisions and
- other public documentation available on Euroclear website

**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.**

Euroclear Finland's participants and issuers are required to sign a participation agreement that is subject to Finnish law and enforced in Finnish courts and/or Finnish arbitration.

Euroclear Finland may require a legal opinion from an applicant in case such applicant is not domiciled in Finland. The legal opinion shall elaborate any obstacles that the applicant might have when operating as a participant or issuer within the Finnish book-entry system or in settlement operations. The legal opinion must be drawn up by a legal expert independent of the applicant and shall include a statement on the possibility to enforce Finnish court decision or a Finnish arbitration decision in the applicant's country of domicile.

Euroclear Finland is not aware that any relevant jurisdiction would ever held any of Euroclear Finland's activities or arrangements under its Rules to be unenforceable, nor has any of Euroclear Finland's actions been voided reversed or subject to stays. There is a high level of comfort that the Rules of Euroclear Finland are enforceable as the Ministry of Finance is closely involved in amending and ratifying the Rules of Euroclear Finland.

**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.**

Euroclear Finland only conducts business in the jurisdiction in which it is established, i.e. in

Finland. The Finnish book-entry system and the securities settlement system operated by Euroclear Finland are both located in Finland. Euroclear Finland doesn't have branches or representative offices in other jurisdictions.

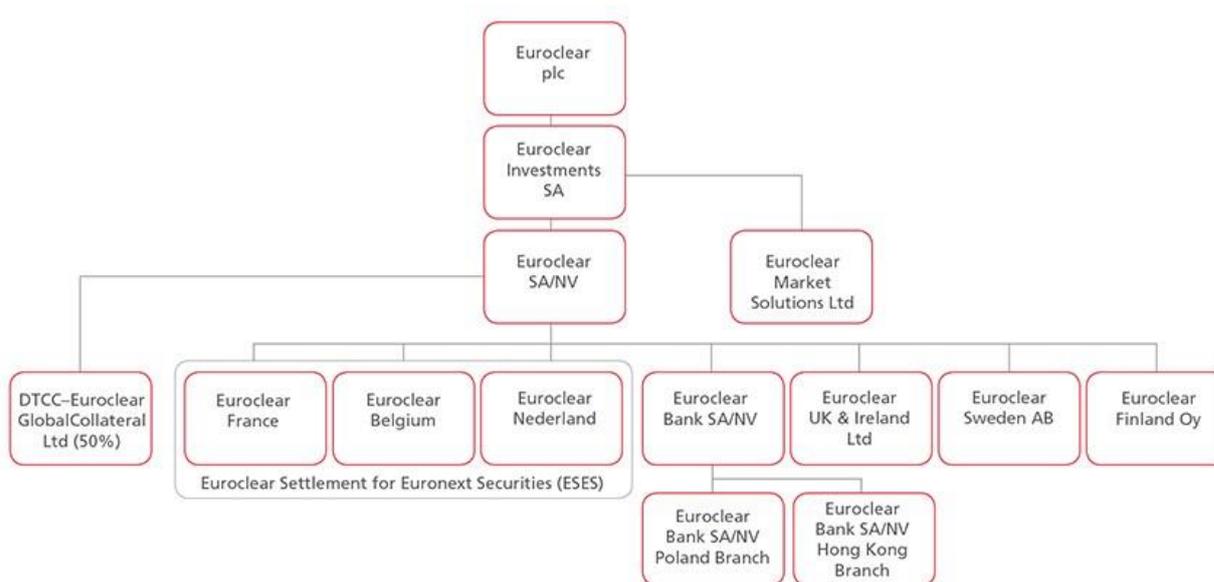
From an asset protection point of view, all jurisdictions where financial instruments are held through links are also relevant. When EFi establish a link with a receiving CSD, EFi obtains an Asset Protection Legal Opinion from a local law firm located in the place of incorporation of the receiving CSD.

## **Principle 2: Governance**

*A 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.**

Euroclear Group is a market infrastructure service provider offering a range of post trade services (settlement, custody and related) to various financial institutions for domestic and international securities, covering bonds, equities and investment funds, among other financial instruments.



The Group has set up a strong, integrated corporate structure to help it deliver on its objectives. The main strategic objective of the Euroclear Group is to be one of the world's leading providers of post-trade services through reliability, innovation and leadership by building long-term partnerships with clients; and supporting the stability and developments of the markets, locally or globally.

The Board of Euroclear plc is responsible for all shareholders matters, setting values and standards in governance matters and ensuring that necessary financial resources are in place to meet strategic aims.

The Board of Euroclear SA/NV is responsible for overseeing the ESA management, setting Group strategy and overseeing its implementation, ensuring effective risk management controls are in place, and setting a Group policies framework.

Within this framework, each (I)CSD of the Euroclear group sets its own strategic and operational objectives. The (I)CSDs are separate legal entities, which are subject to their respective legal and regulatory environments. The Board of Directors (and Board committees) of each of these (I)CSDs is responsible for ensuring a consistent implementation of its strategy and due observance of the legal and regulatory requirements applicable to it.

**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.**

Euroclear Finland operates as a central securities depository and as a clearing organization on the basis of licenses granted by the Finnish Ministry of Finance. The operation of a CSD is governed by the Act on Book-Entry System (348/2017) and by the Act on Book-Entry Accounts (No 827/1991). The operation of a clearing organization is governed by the Finnish Securities Markets Act (No 495/1989 as amended) and by the Act on Certain Conditions of Securities and Currency Trading as well as Settlement Systems (No 1084/1999 as amended) implementing the European Settlement Finality Directive in Finland. A CSD shall be able to handle all the book-entries incorporated in the book-entry system as well as perform all of the duties referred to in the Act on the Book-Entry System in a reliable manner and in a manner that ensures the appropriate development of the book-entry system. A CSD shall also have adequate financial and technical operating requirements in order to be able to attend to the duties of a central securities depository. A CSD shall also have a reliable administration and its ability to bear risks shall be adequately safeguarded.

- *Euroclear Finland shareholders*

All issued capital shares of Euroclear Finland are held by Euroclear SA/NV. Euroclear SA/NV therefore has 100% of Euroclear Finland voting rights.

- *General Meeting of shareholders*

All Euroclear Finland shareholders may attend the General Meetings, either themselves or through proxies. The Annual and Extraordinary General Meetings are convened in compliance with applicable law and the Articles of Association of Euroclear Finland.

Euroclear Finland is a private sector entity and the company form is a private limited liability company.

Being by law a self-regulatory organization, Euroclear Finland also regulates and supervises the book-entry system. Furthermore, Euroclear Finland is responsible for developing the book-entry system as a whole. Euroclear Finland, account operators and the agents of the account operators are subject to supervision by the Financial Supervisory Authority of Finland.

Clearing and settlement systems are regulated in Chapter 4a of the Securities Markets Act. Under the provisions, clearing and settlement are subject to a separate authorization by the Ministry of Finance and supervision by the Financial Supervisory Authority of Finland.

#### **Disclosure of governance arrangements**

Euroclear makes public the relevant governance information to its stakeholders via the Euroclear website (e.g. Board composition, Annual report, etc.): <https://www.euroclear.com/en/about/our->

**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 (management body) of Euroclear Finland is responsible for the policies, defining the strategy of Euroclear Finland (as defined in its Terms of Reference) and supervising Euroclear Finland's senior management (CEO and the Executive Committee). The Board has the powers to carry out all acts that are necessary to achieve the object of the Company as defined in the Articles of Association, except those that are explicitly reserved to the shareholders by law or the Articles of Association.

To adequately fulfil its role and responsibilities, the Board as a whole possesses the necessary balance of skills experience and knowledge to set the general policy and strategy of the Company and to properly supervise management in the implementation of such policy and strategy. The skills that are always represented on the Board are both generic (finance, accounting, management and organization) and specific to the business of the Company (banking, operations, securities, settlement, capital markets, IT).

The Board shall include at least one third (1/3) and not less than two (2) independent members. The Board shall, at all times, comprise of a majority of non-executive members who shall exercise objective and independent judgement. A number of the executive directors on the EFi Board are also members of the Euroclear Group management. This promotes coherence in strategy and policies as between the Group entities and ensures the specificities of the Company are well understood by Euroclear SA/NV and vice versa. All directors have a fiduciary duty to act objectively and independently in that function to ensure that the corporate interests of EFi and the general interest of the infrastructure are preserved.

### **Board composition**

In accordance with the Finnish Companies Act, the Board members are appointed by the General Meeting of the Shareholders and the term of appointment lasts until the end of the first annual general meeting held after the year in which the board member was appointed. In other words, the term of the members of the Board of Directors shall begin and end at the close of the General Meeting performing the election. A Member of the Board may resign from the post before the end of his/her term. A Member may also be dismissed before the end of his/her term by the decision of the General Meeting. Any changes in the Board composition are notified to the Finnish regulators.

### **Chairperson**

The Board elects a Chairperson from among its members unless the General Meeting of Shareholders appoints the Chairperson. The core responsibilities of the Chairperson relate to the Board leadership and governance, as well as ensuring a well-informed Board and facilitating the Board's relationship with the management of the company.

### **Board Committees**

To perform its responsibilities more efficiently, the Board will establish three committees<sup>1</sup>: Board Audit Committee ( "BAC"), Board Risk Committee ("BRIC") and Board Nomination and Remuneration Committee ( "BNRC"), and has defined the Terms of Reference for each committees, including details of their role and responsibilities, their operating procedures and the requirements for reporting to the Board.

The membership of the Board and Board committees are available on <https://www.euroclear.com/en/about/our-structure/boards-and-committees.html>.

**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).**

### **Board of Directors**

With a view to ensuring that the Board remains appropriately composed, the BNRC regularly assesses the performance, composition and balance of the Board against those criteria as set out in the Board and Board Committees' Composition Policy. It also considers and ensures an appropriate proportion of independent directors within the Board. The review is undertaken in light of the purpose of the Company and the role of governance bodies in question, the position of EFi within the Group and the relevant legal and regulatory requirements applicable to EFi. The EFi Board currently has two independent directors.

**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.**

### **CEO**

The CEO is responsible for the operational management of the Company and manages the Company's day-to-day operations in accordance with instructions and orders issued by the Board of Directors. The duties, obligations and liabilities of the CEO are set out in the Instructions for the CEO which are adopted annually by the Board and prepared in accordance with the Companies Act and the recommendations of the Finnish regulators. Pursuant to said instructions, the CEO shall, amongst other things, see to the executive management of the Company in accordance with the advice and instructions issued by the Board of Directors, and ensure satisfactory organization of the Company's business under the supervision of the Board of Directors. The CEO shall also see to it that the accounts of the Company are in compliance with law and that its financial affairs have been arranged in a reliable manner.

### **Executive Committee**

The Executive Committee (the ExCom) supports the CEO in carrying out the Company's day-to-day operations in a coordinated manner and advises the CEO his/her in decision making. The ExCom acts

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<sup>1</sup> A new committee structure will be established in Q4/2018 at the latest. Until that time, the existing committees, i.e. Audit and Risk Committee and Nomination, Remuneration and Governance Committee will continue working under their current mandates and terms of reference.

within the decision making powers delegated to the CEO by the board. The ExCom is chaired by the CEO.

The membership of the Executive Committee is available on <https://www.euroclear.com/en/about/our-structure/boards-and-committees.html>.

**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 crisis 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 Board of EFi has put in place a robust risk governance framework in which roles and responsibilities for managing risks are clearly defined, as outlined in the Corporate Risk Management Board Policy approved by EFi Board. The local policy is based upon the Group Corporate Risk Management Board Policy approved by the Board of Euroclear SA/NV. The policy describes the risk management arrangements established by the EFi Board and articulates an agreed risk appetite statement and expectations on risk culture and is underpinned by a solid governance and organizational structure.

The Policy:

- Establishes the Board's risk appetite for EFi in view of its strategy and strategic objectives;
- Confirms what we mean by risk capacity, risk appetite and risk profile;
- Outlines the respective roles of the Board, Senior Management and the Control Functions (Risk Management, Compliance and Internal Audit) in defining, monitoring and assuring the risk arrangements for EFi and
- Sets out the Board's expectations of the desired risk culture.

The Policy includes a high-level statement about the risk governance roles of the Board, the Board Committees, the Management Committee and Control Functions describing how those risk governance roles and responsibilities fit together to form a strong and cohesive risk governance framework.

The governance arrangements are evidenced in formal terms of reference for the Board and each of its Committees and the Risk Management, Compliance and Internal Audit Charters. All of these documents are reviewed by the relevant Committee and approved by the Board on an annual basis to ensure they remain in line with strategy, market and regulatory requirements.

### **Control Functions**

The Board oversees that well-resourced, effective and independent control functions are in place in EFi .

Risk Management provides robust, independent oversight of activities to help EFi achieve its goals and deliver its strategy through:

- delivering and maintaining a leading enterprise risk management framework;
- providing the Board and Senior Management with high quality, independent risk advice and guidance; and

- helping foster a healthy risk culture throughout the organisation.

Compliance is responsible for monitoring compliance with legal and regulatory rules and implements a compliance and ethics process which gives comfort to Senior Management and the Board that compliance and ethics risks are adequately managed.

Internal Audit provides the highest level of independent assurance to Senior Management and the Board on the adequacy and effectiveness of governance, risk management and internal controls.

The principles laid down in the Board policy are further elaborated in the Enterprise Risk Management Policy Framework through which Senior Management articulates the way it expects management and staff to implement these principles.

**Key consideration 7: The board should ensure that the FMI's design, rules, overall strategy, and major decisions reflect appropriately 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**

Euroclear's mission and what our clients, the capital markets and other stakeholders expect from us is to:

- develop and maintain resilient, reliable, secure and efficient post-trade services;
- support the development of sound and stable capital markets, locally and globally; and
- serve the public good by supporting the efficiency of markets and actively enabling the reduction of risk.

Our strategy is aligned to our mission which is to maintain resilient, reliable, secure and efficient post-trade services. Our board policies, handbooks, procedures and therefore the way we operate reflect our mission and strategy.

The user governance framework of Euroclear Finland ensures that the interests of participants and other stakeholder are taken into account in the CSD's design, rules, overall strategy and major decisions. Users can also influence the decision-making bodies through the Market Advisory Committee and User Committee<sup>2</sup>. These committees act as a primary source of feedback and interaction between the user community and Euroclear Finland's and Group management on significant matters affecting markets.

Users and other stakeholders can also influence Euroclear Group's making decision bodies by participating in ad hoc working groups and committees, international groups or through ad hoc consultations.

### **Disclosure**

Major Annual General Meeting/Board decisions relating to Euroclear Finland business are communicated to the users (participants and issuers) through various publications (i.e. Newsletters) and through user

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<sup>2</sup> Euroclear Finland's User Committee will be established Q3/2018 at the latest.

representatives in regular meetings of the Market Advisory Committee, User Committee<sup>3</sup> and/or ad-hoc working groups/committees.

### ***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: An FMI should have risk-management policies, procedures, and systems that enable it to identify, measure, monitor, and manage the range of risks that arise in or are borne by the FMI. Risk-management frameworks should be subject to periodic review.**

#### **Enterprise Risk Management (ERM) framework**

Euroclear uses its 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 as our approach to ensure risks are managed to achieve our strategic objectives. The ERM framework is established via several policies and handbooks supported by guidelines and operating procedures across the organisation.

The Risk Management division works in close cooperation between Euroclear Group entities in order to ensure a consistent risk-management approach across all entities in establishing the framework.

The EFi Board is responsible for approving Board policies applicable to EFi and the EFi management is responsible for approving policy handbooks which capture the way we implement the Board policies. The handbooks are supported by operating procedures and guidelines which are either at entity or department level.

When developing these policies, the Boards and Management Committees are assisted by specific committees. The EFi Board is advised by its Risk Committee<sup>4</sup>. 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 (GRC).

The ERM has the following key content-related components:

- well-developed frameworks and comprehensive policies, based on good market practices, set out how risks are managed consistently
- risk categories, which is an inventory of risk sources that the Euroclear group is facing
- the Internal Controls System

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

<sup>3</sup> Euroclear Finland's User Committee will be established Q3/2018 at the latest.

<sup>4</sup> A new committee structure will be established in Q4/2018 at the latest. Until that time, the existing committees, i.e. Audit and Risk Committee and Nomination, Remuneration and Governance Committee will continue working under their current mandates and terms of reference.

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.



#### Review frequency

Euroclear Finland is continuously improving its risk management framework to ensure that among other things we are keeping pace with the changing regulatory and market environment. The ERM framework is subject to regular review and Risk Management is responsible to recommend amendments or additions to the Boards for approval as appropriate.

The supporting policy handbooks are revisited as often as it's required. The triggering event for a revision could be driven by similar reasons as for a policy, or could be that there are organisational, procedural etc. changes which necessitate this.

#### **Risks that arise in or are borne by the CSD**

There are 6 main risk categories which Euroclear Finland 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, EFi is mainly exposed to operational risks, business risks and strategic risks. Strategic risks include for example a situation where 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. Business risks include changed business volumes, increased competition, changed market behaviour.

### **Euroclear's three lines of defence model**

In line with best market practice, Euroclear operates three lines of defence model. The allocation of responsibilities within Euroclear's three lines of defence model is:

- First line of defence: 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 establish, maintain, facilitate and assess the effective operation of Euroclear's ERM framework. It reports, challenges, escalates to management on 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.
- 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.

### **Risk Identification**

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 by team leaders, department heads and management committees.
- The systematic risk assessments associated with the new product or service approval process
- Annual Risk and Control self-assessment
- Risk Management's recurring risk assessments

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

### **Risk Analysis**

Euroclear has developed an assessment and rating methodology for risks which enables risks to be classified according to their impact on the relevant business areas or Euroclear entities. 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 logged in the common risk database (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

### **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. 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). All departments and functions assess themselves against the given control objectives, and reports on any control gaps, risks or shortcomings. 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 Euroclear 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**

The outcomes of RCSA are reported in the department and company level reports and in the yearly Internal Control System report. The 2nd line of defence (risk management) and the 3rd line of defence provide its view in particular on the controls that are feeding to the yearly Internal Control System assessment. Risk Management summarises the results, review with senior management and reports to the Audit and Risk committees of Euroclear Boards.

### **Supporting systems**

The group has a common risk database called 'I-Track' where risks are recorded and followed up. It allows EFi to track both risks identified proactively by the business, the Risk management or by the internal audit and risks identified when root causes of incidents have been analysed. The database contains risk descriptions, risk owners, action plans and their owners, 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 the local IT incident management Tool called 'Efecte' and if certain thresholds are met the data of an incident is also logged in a central database called 'ROI+' which is linked to the 'I-Track' database.

### **Effectiveness of the risk management policies, procedures and systems**

The First line assesses the effectiveness of the actual measures in place by using key performance indicators (KPIs) and key risk indicators (KRIs). The results of the monitoring are cascaded upwards to Management Committees. Any deviations are highlighted, investigated and policies and processes are adjusted if necessary.

Internal Audit provides a reporting to the governing bodies including the Board on the effectiveness of the risk management at Euroclear and the effectiveness of the Risk Management function.

### **ERM Framework and ICAAP – Methodology**

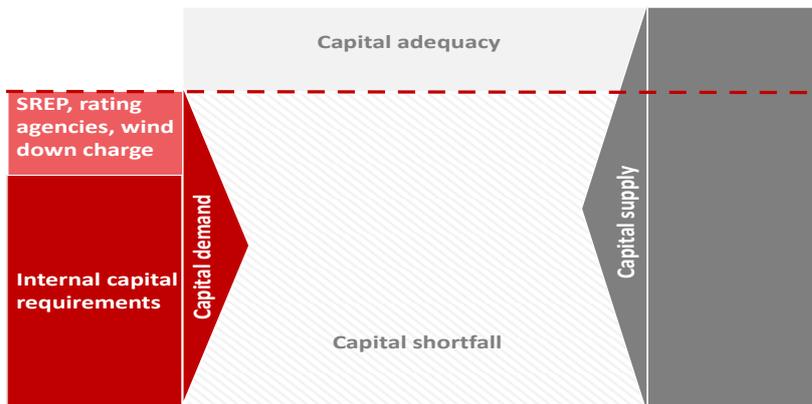
The Internal Capital Adequacy Assessment Process ('ICAAP') is the set of methodologies and procedures in place to enable the various governance bodies of Euroclear Group and more specifically of EFi to assess and preserve the right level and quality of its own funds. The purpose of the ICAAP is to inform the Board of the ongoing assessment of the risks, how EFi intends to mitigate those risks and how much current and future capital is necessary having considered other mitigating factors.

The ICAAP process ensures that the Euroclear Group:

- has adequately identified, measured and aggregated the Group's risks;
- holds adequate internal capital in relation to the institution's risk profile; and

- has sound risk management systems and develops them further.

The ICAAP has to consider simultaneously the economic view of matching the capital supply (risk-taking capacity) with the capital demand. The level of capital is deemed to be adequate as long as the capital requirements (capital demand) are below the available capital (capital supply).



*Figure: Capital adequacy conceptually*

Please note that the ICAAP is focused on a “going-concern” perspective. It is aimed at the ongoing fulfilment of internal requirements such as capital adequacy ratios. The capital demand is assessed based on the maximum level of overall risk Euroclear is willing to take (risk appetite) in the course of its regular business, given its specific risk profile. It is mainly driven by business plans and by risk-profile forecasts in combination with macro-economic evolution. The Recovery, Restructuring and orderly Wind-Down Plan (“RRP”) provides a complementary view to the ICAAP by focusing on the recovery and restructuring as well as the orderly wind-down.

Capital supply is mainly influenced by planned capital transactions and expected profits. For capital supply only capital components that can be consumed without creating a potential disturbance in the normal banking operations is taken into account.

**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.**

EFi services and systems have been specifically designed to enable participants to monitor, manage and reduce the risk they face, including through Delivery versus Payment and extensive real time information (the information contains among others data on participant’s transactions, cash and securities positions). EFi promotes straight through processing to as large extent as possible to limit the operational risks in the settlement process for all participants.

EFi does not provide any credit facility to participants and has no financial exposure with participants (except the payment of invoices). EFi encourages its participants to use the EFi’s systems in the best way and provides extensive information regarding the use of the systems and the services available.

Beside the information available on Euroclear web site EFi organizes training for participants.

Finally, we have implemented a surveillance process to reduce the risks both for EFi and its participants. A surveillance consists of an initial know your client (“KYC”) and due diligence exercise upon admission which is follow up by regular KYC process to make sure the admission criteria are still

met.

EFi has no contractual relationship with participants' customer. The contractual relationship remains exclusively between EFi 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 EFi bear from and pose to other entities are operational risks. They are identified within the ERM framework as with other risks, e.g. by project or service risk assessments, or by annual risk self-assessments.

The risks borne by EFi from other entities (such as FMIs, large participants, Target2, network providers and data providers) are mainly affecting the efficiency of the system and the level of services offered by EFi. Some examples are listed below:

- risk of lower settlement ratio if one or several significant participants make operational errors (for example send incorrect instructions) or cannot deliver their instructions in time
- risk to settlement ratio if a major infrastructure player in the financial sector is down, like the central bank or a Central Counterparty (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)

A long term system outage or a severe technical or operational error could cause substantial delivery delays and liquidity issues to participants or their customers. To mitigate this, EFi has implemented many layers of precaution and protection of its processes and services with business continuity plans regularly tested.

### **Risk measurement and monitoring**

The risk management procedures and processes referred to in the section above under Key consideration 1 are also used when assessing the risks posed by other entities.

These include:

- Standard Risk assessments (including the new product approval risk assessments)
- Business continuity plans and tests as well as default procedure tests
- First line and second 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 referred to in Key consideration 1, above are also applicable to risks arising from interactions with other entities.

**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 EFi 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 wind-down plan ("Plan") is to provide the information and procedures necessary to allow EFi to effectively recover so that it can continue to provide its critical services if 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 or its shareholders own resources. It does not assume any extraordinary form of state or central bank support. The Plan also assists resolution authorities in preparing and executing their resolution plans for the institution.

Euroclear has prepared Recovery, restructuring and orderly wind-down plans for all material entities. EFi's Plan describes in detail a certain number of recovery, restructuring and wind-down options ("Options") that EFi could take in order to restore its financial soundness in a reasonable and appropriate timeframe.

Euroclear entities have development and maintenance processes in place that detail the process to draft and approve the Plan. The EFi recovery plan has been approved by its Board.

### **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. For this to happen, EFi need to assume a certain number of control failures and a conjunction of events that are very unlikely.

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 of the plan are:

Scenarios	Description
<b>S01</b> Default of a major participant and market counterparty	The defaulting participant is one of EFi's largest clients. It defaults suddenly and unexpectedly on all its obligations to EFi.
<b>S03</b> Internal Fraud at a CSD or at ESA	A fraud event occurs and EFi is defrauded of its deposited funds and action proceeds. 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).
<b>S05</b> Major operational incident	EFi 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 sites as reflected in the business continuity plan.
<b>S06</b> Business Loss	Due to external factors EFi 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.
<b>S07</b> Group entity in resolution (ESA)	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 EB and/or the other CSDs need to continue to receive the critical services from ESA (or an alternative service provider), to ensure uninterrupted services to clients.
<b>S08</b> Fine due to breach of sanction following geopolitical tensions	EFi is fined for breaching sanctions resulting from geopolitical tensions.

### 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 analysed options in the plan cover:

- Recovery options:
  - Loss absorption and risk transfer options (Available capital, Insurance, Liability limitations) and Capital options (Seek capital within the group, Seek capital from external sources)
- Restructuring options:
  - Urgent cost reductions, Keep lights on projects only, Downsize, Increase fees, Sell EFi business lines, Sell other group assets,
- Wind-down options:
  - Sell EFi, Transfer of clients assets, Close down

## **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.*

**Key consideration 1: An FMI should establish a robust framework to manage its credit exposures to its participants and the credit risks arising from its payment, clearing, and settlement processes. Credit exposure may arise from current exposures, potential future exposures, or both.**

Euroclear Finland doesn't extend credit to its participants or issuers, guarantees settlement nor payment to issuers, participants or clients.

**Key consideration 2: An FMI should identify sources of credit risk, routinely measure and monitor credit exposures, and use appropriate risk-management tools to control these risks.**

Euroclear Finland doesn't extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

**Key consideration 3: A payment system or SSS should cover its current and, where they exist, potential future exposures to each participant fully with a high degree of confidence using collateral and other equivalent financial resources (see Principle 5 on collateral). In the case of a DNS payment system or DNS SSS in which there is no settlement guarantee but where its participants face credit exposures arising from its payment, clearing, and settlement processes, such an FMI should maintain, at a minimum, sufficient resources to cover the exposures of the two participants and their affiliates that would create the largest aggregate credit exposure in the system.**

Euroclear Finland doesn't extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

**Key consideration 4: A CCP should cover its current and potential future exposures to each participant fully with a high degree of confidence using margin and other prefunded financial resources (see Principle 5 on collateral and Principle 6 on margin). 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 to cover a wide range of potential stress scenarios that should include, but not be limited to, the default of the two participants and their affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. All other CCPs 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 participant and its affiliates that would potentially cause the largest aggregate credit exposure for the CCP in extreme but plausible market conditions. In all cases, a CCP should document its supporting rationale for, and should have appropriate governance arrangements relating to, the amount of total financial resources it maintains.**

N/A to EFi being a CSD

**Key consideration 5: A CCP should determine the amount and regularly test the sufficiency of its total financial resources available in the event of a default or multiple defaults in extreme but plausible market conditions through rigorous stress testing. A CCP should have clear procedures to report the results of its stress tests to appropriate decision makers at the CCP and to use these results to evaluate the adequacy of and adjust its total financial resources. Stress tests should be performed daily using standard and predetermined parameters and assumptions. On at least a monthly basis, a CCP should perform a comprehensive and thorough analysis of stress testing scenarios, models, and underlying parameters and assumptions used to ensure they are appropriate for determining the CCP's required level of default protection in light of current and evolving market conditions. A CCP should perform this analysis of stress testing more frequently when the products cleared or markets served display high volatility, become less liquid, or when the size or concentration of positions held by a CCP's participants increases significantly. A full validation of a CCP's risk-management model should be performed at least annually.**

N/A to EFi being a CSD

**Key consideration 6: In conducting stress testing, a CCP should consider the effect of a wide range of relevant stress scenarios in terms of both defaulters' positions and possible price changes in liquidation periods. 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.**

N/A to EFi being a CSD

**Key consideration 7: An FMI should establish explicit rules and procedures that address fully any credit losses it may face as a result of any individual or combined default among its participants with respect to any of their obligations to the FMI. These rules and procedures should address how potentially uncovered credit losses would be allocated, including the repayment of any funds an FMI may borrow from liquidity providers. These rules and procedures should also indicate the FMI's process to replenish any financial resources that the FMI may employ during a stress event, so that the FMI can continue to operate in a safe and sound manner.**

Euroclear Finland doesn't extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

## **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.*

**Key consideration 1: An FMI should generally limit the assets it (routinely) accepts as collateral to those with low credit, liquidity, and market risks.**

Euroclear Finland doesn't require collateral or extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

**Key consideration 2: An FMI should establish prudent valuation practices and develop haircuts that are regularly tested and take into account stressed market conditions.**

Euroclear Finland doesn't require collateral or extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

**Key consideration 3: In order to reduce the need for procyclical adjustments, an FMI should establish stable and conservative haircuts that are calibrated to include periods of stressed market conditions, to the extent practicable and prudent.**

Euroclear Finland doesn't require collateral or extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

**Key consideration 4: An FMI should avoid concentrated holdings of certain assets where this would significantly impair the ability to liquidate such assets quickly without significant adverse price effects.**

Euroclear Finland doesn't require collateral or extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

**Key consideration 5: An FMI that accepts cross-border collateral should mitigate the risks associated with its use and ensure that the collateral can be used in a timely manner.**

Euroclear Finland doesn't require collateral or extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

**Key consideration 6: An FMI should use a collateral management system that is well-designed and operationally flexible.**

Euroclear Finland doesn't require collateral or extend credit to its participants or issuers, nor guarantees settlement or payment to issuers, participants or clients.

## **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.*

**Key consideration 1: A CCP should have a margin system that establishes margin levels commensurate with the risks and particular attributes of each product, portfolio, and market it serves.**

N/A to EFi being a CSD

**Key consideration 2: A CCP should have a reliable source of timely price data for its margin system. A CCP should also have procedures and sound valuation models for addressing circumstances in which pricing data are not readily available or reliable.**

N/A to EFi being a CSD

**Key consideration 3: A CCP should adopt initial margin models and parameters that are risk-based and generate margin requirements sufficient to cover its potential future exposure to participants in the interval between the last margin collection and the close out of positions following a participant default. Initial margin should meet an established single-tailed confidence level of at least 99 percent with respect to the estimated distribution of future exposure. For a CCP that calculates margin at the portfolio level, this requirement applies to each portfolio's distribution of future exposure. For a CCP that calculates margin at more-granular levels, such as at the sub portfolio level or by product, the requirement must be met for the corresponding distributions of future exposure. The model should (a) use a conservative estimate of the time horizons for the effective hedging or close out of the particular types of products cleared by the CCP (including in stressed market conditions), (b) have an appropriate method for measuring credit exposure that accounts for relevant product risk factors and portfolio effects across products, and (c) to the extent practicable and prudent, limit the need for destabilising, procyclical changes.**

N/A to EFi being a CSD

**Key consideration 4: A CCP should mark participant positions to market and collect variation margin at least daily to limit the build-up of current exposures. A CCP should have the authority and operational capacity to make intraday margin calls and payments, both scheduled and unscheduled, to participants.**

N/A to EFi being a CSD

**Key consideration 5: In calculating margin requirements, a CCP may allow offsets or reductions in required margin across products that it clears or between products that it and another CCP clear, if the risk of one product is significantly and reliably correlated with the risk of the other product. Where two or more CCPs are authorised to offer cross-margining, they must have appropriate safeguards and harmonised overall risk-management systems.**

N/A to EFi being a CSD

**Key consideration 6: A CCP should analyse and monitor its model performance and overall margin coverage by conducting rigorous daily backtesting – and at least monthly, and more-frequent where appropriate, sensitivity analysis. A CCP should regularly conduct an assessment of the theoretical and empirical properties of its margin model for all products it clears. In conducting sensitivity analysis of the model’s coverage, a CCP should take into account a wide range of parameters and assumptions that reflect possible market conditions, including the most-volatile periods that have been experienced by the markets it serves and extreme changes in the correlations between prices.**

N/A to EFi being a CSD

**Key consideration 7: A CCP should regularly review and validate its margin system**

N/A to EFi being a CSD

## **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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply. EFi operates a real-time gross settlement systems using central bank money for delivery versus payment settlement between settlement members. Settlement members are obliged to appoint a bank having access to central bank money in the TARGET2 system to enable central bank money settlement execution of transactions between settlement members.

**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 intraday liquidity.**

EFi 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. EFi respects the regulatory requirements to which it has to comply.

The daily settlement operations are monitored by Operations and deviations from binding daily schedules, systems operations, users' actions, connectivity and IT requirements are followed up during the course of the settlement day. Deviations are taken up both during the day and in Surveillance meetings with participants.

**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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply.

**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.**

N/A to EFi being a CSD

**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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply.

**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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply.

**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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply.

**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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply.

**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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply.

**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.**

EFi 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. EFi respects the regulatory requirements to which it has to comply. EFi's public Default Board Policy together with Rules and CEO's decisions provide the framework according to which default is processed.

## **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.**

### **Point of settlement finality**

Euroclear Finland is defined as a designated system under the Settlement Finality Directive. The Netting Act together with ABEA and Euroclear Finland's Rules governs the moment of entry, irrevocability of a transfer order and finality of transfer. The Rules of Euroclear Finland are available on the Euroclear website.

According to the Netting Act, obligations originating from a time prior to initiation of insolvency proceedings (such as bankruptcy, company reorganization and levy of execution) against a participant in a settlement system may be settled and are binding on third parties regardless of the insolvency proceedings, if that the obligations (i.e. "transfer orders" in the Settlement Finality Directive) were entered into the settlement system before the moment of the participant's insolvency proceedings were opened (i.e. "moment of entry" in the Settlement Finality Directive).

According to the Rules of Euroclear Finland, the *moment of entry* is the moment when the transfer order, i.e. the settlement instruction is received and validated by the settlement system.

If the obligations were entered into the settlement system after the moment of the opening of the insolvency proceedings and become binding on the participants (i.e. "irrevocable" in the Settlement Finality Directive), they may be settled on the day of the opening of such proceedings and the settlement is legally enforceable and binding on third parties only if the system operator can prove that it was not aware, nor should have been aware, of the opening of such proceedings when the obligations became irrevocable in accordance with the rules of the system.

According to the Rules of Euroclear Finland, the *moment of irrevocability* is the moment when the transfer order, i.e. the settlement instruction is matched in the settlement system. After the said moment a participant may not unilaterally cancel a matched transaction.

A transfer of book-entry securities is *final* when the security has been debited from the deliverer's book-entry account and credited to the recipient's book-entry account. In case of transaction settlement against payment, finality requires that also the funds transfer is executed from the buyer to the seller. Finality additionally requires the removal of any settlement related reservations and restrictions on disposal from the book-entry accounts.

As finality is described in applicable legislation and the Rules of Euroclear Finland, it ensures that the finality provisions are enforceable.

## Finality in the case of links

Finality in CSD links is assessed in two scenarios; finality of a cross-border transaction (between issuer CSD and investor CSD) and finality of a transaction within the issuer CSD after a foreign security has been transferred to the issuer CSD.

When Euroclear Finland is acting as an **Issuer CSD**, the finality follows the same domestic rules for the Finnish part of cross-border settlement. Hence, as the investor CSD acts as a participant in the issuer CSD, finality is reached between a Finnish participant and the foreign CSD as participant (investor CSD) in Euroclear Finland's securities settlement system in accordance with Finnish provisions on finality; Finality Act, the Finnish Act on Book-entry Accounts, and the Rules of Euroclear Finland.

The transaction is furthermore settled in the investor CSD and reaches finality in accordance with the investor CSD's applicable foreign law. As the book-entry securities are typically credited in a custodial nominee account, Section 5a of the Finnish Act on Book-entry Accounts provides a choice of law rule indicating the law of the place of the relevant account. Hence, while finality of a transfer registered in a custodial nominee account will be achieved in accordance with the rules applicable to the Finnish book-entry system, the transfer is final from the foreign recipient's point of view (i.e. the receiving client) when the transfer is final also in accordance with the investor CSD's applicable foreign law (being primarily the law of the investor CSD).

When establishing a link between Euroclear Finland and a foreign CSD in which Euroclear Finland is acting as an **Investor CSD**, foreign securities or rights attached to foreign securities are subject to the finality laws of the state in question (i.e. the foreign CSD). However, after foreign securities or rights pertaining to foreign securities have been incorporated in the Finnish book-entry system, they will be treated as book-entry securities in the same way as Finnish book-entry securities with respect to proprietary law effects and finality law. Finality is reached in the issuer CSD between CSD participant and EFi as a participant (and a investor CSD) and furthermore in EFi (as the investor CSD) in accordance with the finality provisions (Finality Act) applicable to the Finnish securities settlement system and book-entry system (the Finnish Act on Book-entry Accounts). Thus, Finnish law, as well as the Rules of Euroclear Finland, shall be applicable to the incorporated foreign securities and the transfer is final when the book-entry account is credited/debited also in the Finnish book-entry system. With respect to the applicable corporate law, the foreign securities remain subject to the foreign law in question.

**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.**

**Infinity** operates according to BIS model 1, i.e. it is a real time gross settlement model that has ongoing settlement between 8:00 and 19:00 Finnish time on Target2 opening days.

When settlement is final, the funds and securities are available for further transfers immediately after finality. Participants receive confirmation on finally settled transactions from settlement confirmation messages that are delivered to participants after settlement is final.

There have not been cases where final settlement has been deferred to the next business day.

**Infinity** operates RTGS i.e. continuous and real-time basis and fulfils the Lamfalussy-Recommendations using BIS – DVP model 1. Infinity includes a mechanism to optimize the settlement process and liquidity needed to settle transactions. The optimization algorithm incorporated in the system calculates the most efficient settlement solution for a maximum number of transactions at separately determined points of time. The system redirects funds to be received from sell-side transactions subject to optimization to pay obligations arising from buy-side transactions while preserving legal nature of transaction-by-transaction settlement. Clear majority of transactions settle in the first daily optimization processes. Optimization shall not be referred to as netting, and Euroclear Finland does not guarantee the outcome of the optimization and there is no novation of underlying trades.

Euroclear Finland opens access to Infinity system daily at 7:00 am Finnish time (CET +01:00 h) for entering instructions and data into the system. Settlement processing starts at approximately 10:00 am. Euroclear Finland closes Infinity settlement for the same day at 5:30 pm while the system is kept open until 9:00 pm.

**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.**

According to the Netting Act and the Rules of Euroclear Finland, the *moment of irrevocability* is the moment when the transfer orders, i.e. the settlement instructions are matched in the settlement system. After the said moment a participant may not unilaterally cancel a matched transaction.

Unilateral removal of matched transactions is technically prevented. In day to day settlement, participants may want to remove a transaction from the system. This requires action from both participants to the transaction. A removal of a matched transaction is possible until the transaction is finally settled. It is not possible to extend the revocation deadline.

Euroclear Finland may not intervene or prevent any settlement. Euroclear Finland may in accordance with the Rules of Euroclear Finland take extraordinary measures that are necessary to avoid serious market disruption. These situations may relate to e.g. IT disruptions or external effects.

The measures that Euroclear Finland is entitled to take are described in more detail in Euroclear Finland's Rules which are available on the Euroclear website.

## **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.**

Euroclear Finland uses exclusively central bank money in settlement operations. Payment transfers are handled through Euroclear Finland's central bank accounts in the TARGET2. Euro is the sole settlement currency.

In conjunction with settlement and securities transfers, Euroclear Finland provides the facility for payment transfers through its central bank accounts on the TARGET2.

Euroclear Finland does not operate as a licensed bank providing bank accounts to its participants or third parties. Euroclear Finland has opened in its name payment transfer accounts in TARGET2 system and maintains a sub bookkeeping or payment ledger on participants' funds within the settlement system to enable secure delivery versus payment execution.

The payment facility operates as follows: participants transfer funds either directly if they are members in the TARGET2, or through an institution having access to the TARGET2, intended for settlement from their TARGET2 accounts to Euroclear Finland's account. Euroclear Finland maintains a ledger for each participant to determine the purpose for which the funds have been transferred to Euroclear Finland's account. Participants can monitor the available funds for settlement on-line. Furthermore, the participants are able to transfer funds within the ledger and refund the funds to their own central bank accounts.

The European Central Bank describes the system adopted in Euroclear Finland's systems in Finland as *autonomous central bank money model* (see ECB Publication 'The Use of Central Bank Money for Settling Securities Transactions', May 2004).

**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.**

N/A, only central bank money is used.

**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, capitalization, 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.**

N/A, only central bank money is used.

**Key consideration 4: If an FMI conducts money settlements on its own books, it should minimize and strictly control its credit and liquidity risks.**

N/A. Euroclear Finland does not conduct any settlement on its own books.

**Key consideration 5: An FMI's legal agreements with any settlement banks should state clearly 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.**

N/A. Euroclear Finland doesn't use settlement banks.

## **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.**

N/A, EFi doesn't process physical securities.

**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.**

N/A, EFi doesn't process physical securities.

## **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 unauthorized creation or deletion of securities, and conduct periodic and at least daily reconciliation of securities issues it maintains.**

Euroclear Finland's self-regulation consists of Rules of Euroclear Finland and CEO Decisions based on the Rules. In accordance with the law, the operations of Euroclear Finland shall be regulated in more detail in Euroclear Finland's Rules, which shall be ratified by the Ministry of Finance.

The CEO Decisions of Euroclear Finland complement the Rules which include more general provisions. The Decisions may only be issued on the basis of a separate authorization prescribed in the Rules. The Decisions are of technical nature and they shall not be submitted for ratification by the Ministry of Finance. Participants and issuers of Euroclear Finland shall undertake to comply with the Rules and Decisions.

In addition to the self-regulation the rights of the securities issuers and holders are safeguarded by agreements, access right protocols, and technical system supporting standard operating procedures.

Euroclear Finland has only individual level user rights in use (internal/external). Client users are defined by the client to services agreed in the agreement between the client and EFi. The user rights give access to the client's own data only. Also application specific manuals about user rights are in place.

Within EFi User rights are reviewed annually by direct managers and IT to ensure users' access remains up to date.

Euroclear Finland performs daily reconciliation of its CSD systems data and holdings. Also participants are obliged to reconcile their records with the information received from a CSD on a daily basis. There are processes and tools in place for solving discrepancy situations. EFi has also a process for comparing issued amounts with the Trade Register data when issuing new securities or processing corporate actions.

**Key consideration 2: A CSD should prohibit overdrafts and debit balances in securities accounts.**

It is not possible to overdraw securities accounts so that any debit positions in securities accounts would arise at Euroclear Finland. It is the statutory duty of Euroclear Finland to monitor that the number of book-entry securities registered in the book-entry accounts corresponds to the number issued for circulation. EFi has also a process for comparing issued amounts with the Trade Register data.

**Key consideration 3: A CSD should maintain securities in an immobilized or dematerialized form for their transfer by book entry. Where appropriate, a CSD should provide incentives to immobilize or dematerialize securities.**

Euroclear Finland processes exclusively dematerialized securities and transfers by book-entry.

**Key consideration 4: A CSD should protect assets against custody risk through appropriate rules and procedures consistent with its legal framework.**

Euroclear Finland accounting practices and internal controls, regularly reviewed by auditors protect account holders assets, which are segregated from Euroclear Finland's own assets, from the risk of loss due to Euroclear Finland itself. In addition, frequent reconciliations allow swift identification of errors if any.

Neither Euroclear Finland nor the account operators are considered to be the owners of the securities in a book-entry account unless it is an account opened separately in the account operator's own name for its own positions. The book-entry securities credited in a participant's or beneficial owner's book-entry account are not available for the satisfaction of claims of general creditors of Euroclear Finland. The beneficial owners of book-entry securities do not need to participate in possible insolvency proceedings of Euroclear Finland as creditors. Thus the holders of the book-entry accounts are protected against the insolvency of Euroclear Finland.

The account operator shall, irrespective of negligence (strict liability), be liable to compensate damage relating to a book-entry account managed by it in accordance with the ABEA. Furthermore, the Registration Fund covers to a limited extent damage which an account operator is not able to compensate.

These same rules apply to foreign securities incorporated in the Finnish book-entry system. After foreign securities or rights pertaining to foreign securities have been incorporated in the Finnish book-entry system, they will be treated as book-entry securities in the same way as Finnish book-entry securities with respect to proprietary law effects.

When Euroclear Finland establishes a link with another CSD, Euroclear Finland obtains an Asset Protection Legal Opinion from a local law firm located in the place of incorporation of the receiving CSD in order to ensure the level of asset protection.

**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.**

Segregation of securities on different account types is supported by the ABEA.

Generally, book-entry securities are not held in fungible pools in Finland. Instead, securities are registered in investor-specific accounts kept in the investors' names on the level of the CSD. Finnish investors are required to have accounts registered in their own names. Regarding an investor-specific book-entry account maintained in the book-entry system, an investor is considered to have a direct and traceable ownership right of an individual book-entry security registered in his account. The right of the investor is neither regarded as a proportional co-ownership right to a pool of securities nor as a special interest in such. Neither Euroclear Finland nor the other account operators are considered to be the owners of the securities in a book-entry account unless it is an account opened separately in the account operator's own name for its own positions.

Book-entries owned by a foreign individual, corporation or foundation may be entered in a special book-entry account (custodial nominee account) administered by a custodial account holder on behalf of a beneficial owner on the basis of an authorization. Custodial nominee accounts must contain information on the custodial account holder and the fact that the account is a custodial nominee account (Section 5a, Subsection 1 of ABEA). This statement creates a legal presumption for the benefit of the owners further down in the custody chain. Neither the custodian nor its successors or creditors have a title to securities in a custodial nominee account. A custodial nominee account may be used for the keeping of book-entries administered on behalf of one or more customer(s) (Section 5a, Subsection 2 of ABEA). Book-entries owned by the custodial account holder shall not be registered in the custodial nominee account.

Commission account refers to a specific book-entry account referred to in Section 16 of ABEA used in order to arrange the operations of a settlement organization. According to Section 16, Subsection 2 of ABEA, book-entries owned by the account holder and its customer may not be registered in the same commission account.

In case of a custodial nominee account and commission account, the rights of the investors are not directly registered in the book-entry system, but exclusively in the books of the custodian ("sub-accounting").

**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.**

In line with group methodology Euroclear Finland works with 3 pillars of defence to monitor and contain risk. The first line is managed by the business, the second by the risk management and finally the internal audit, as the third line, follows up on the procedures and set-ups.

Any new service will undergo a risk assessment prior to implementation. In running mode all operational activities are thereafter subject to continuous audits.

### ***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.**

Euroclear Finland doesn't offer exchange-of-value settlement.

Both Euroclear Finland's systems – Infinity and Infinity – are BIS Model 1 DVP systems: instructions are settled between participants on a trade by trade (gross) basis, with finality of the transfer of securities from the seller to the buyer occurring at the same time as the finality of transfer of funds from the buyer to the seller.

The system controls the availability of the cash and securities provisions before executing the instructions. If the cash and/or the securities are not available, the transaction will not be settled (but will be recycled later on in accordance with the system's rules). When the cash and the securities are available, the instructions will settle and the cash and securities will be transferred simultaneously.

Both the contractual and technical framework of Euroclear Finland's systems ensures that delivery of securities takes place if, and only if, payment is received.

## **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.**

Euroclear Finland does not provide any credit to participants and has no financial exposure to participants (except in respect of unpaid fees). Therefore, the risk related to the default of a participant should be limited to unpaid fees at the time of the default. Such a scenario should not trigger the need for the replenishment of resources following a default.

If insolvency proceedings were opened against a participant, Euroclear Finland would use exceptional settlement arrangements as described in the rules. Insolvency proceedings are defined as follows in Euroclear Finland's rules:

“Insolvency proceedings refer to bankruptcy, corporate debt restructuring, debt restructuring of a private individual, liquidation, a temporary discontinuation of business, the closure of business or withdrawal of a license of a credit institution, the withdrawal of a license or restriction on business of an investment firm, the prohibition of or restriction on the provision of an investment service, a restructuring action by an insurance company and any similar Finnish or foreign action.”

Euroclear Finland also arranges regular practices with Finnish market participants to go through responsibilities and roles in Participant default situation.

**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.**

Euroclear Finland maintains public Rules, CEO decision and a Default Board Policy applicable to the default of a participant.

The documentation further outlines to which the information regarding default 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 public Rules, CEO decision and a Default Board Policy applicable to the default of a participant are publicly available and detail all aspects that are relevant for clients in case of a default.

The circumstances in which the actions may be taken are defined in the Rules of Euroclear Finland. In the Rules of Euroclear Finland, default proceedings refer to bankruptcy, corporate debt restructuring, debt restructuring of a private individual, liquidation, a temporary discontinuation of business, the

closure of business or withdrawal of a license or restriction on business, the prohibition of or restriction on the provision of an investment service, a restructuring action by an insurance company and any similar Finnish or foreign action.

The Rules of Euroclear define what actions can be used to handle a default event and who decides on the actions. The possible actions include:

- Registration of a bankruptcy restriction to the book-entry accounts
- Prevention of repatriation of funds
- Use of a liquidity guarantee
- Prevention of access to the systems
- Amendments to the settlement schedule
- Temporarily suspension of settlement
- Suspension of the operations of a participant
- Cancellation of the participant rights

**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.**

EFi undertakes dry run rehearsals both internally and with its participants and other relevant stakeholders to review and test its default procedures on a regular basis.

Considering the relatively straightforward settlement processing in case of a default, EFi has identified only limited need to have tests with participants concerning the default procedures. Another reason for not having large scale testing its participant default procedures with EFi participants is because most of the procedures to be tested are internal procedures with instructions for EFi to act upon. The interactions with defaulted participants and other participants are mainly limited to information given by EFi to the defaulting participant and other participants. Furthermore, some of the actions are dependent on the estate administrator. The administrator is an external person and is never known in the current business but only appointed at the time of the default which makes it impossible to test in advance.

## ***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.*

**Key consideration 1: A CCP should, at a minimum, have segregation and portability arrangements that effectively protect a participant's customers' positions and related collateral from the default or insolvency of that participant. If the CCP additionally offers protection of such customer positions and collateral against the concurrent default of the participant and a fellow customer, the CCP should take steps to ensure that such protection is effective.**

N/A to EFi being a CSD

**Key consideration 2: A CCP should employ an account structure that enables it readily to identify positions of a participant's customers and to segregate related collateral. A CCP should maintain customer positions and collateral in individual customer accounts or in omnibus customer accounts.**

N/A to EFi being a CSD

**Key consideration 3: A CCP should structure its portability arrangements in a way that makes it highly likely that the positions and collateral of a defaulting participant's customers will be transferred to one or more other participants.**

N/A to EFi being a CSD

**Key consideration 4: A CCP should disclose its rules, policies, and procedures relating to the segregation and portability of a participant's customers' positions and related collateral. In particular, the CCP should disclose whether customer collateral is protected on an individual or omnibus basis. In addition, a CCP should disclose any constraints, such as legal or operational constraints, that may impair its ability to segregate or port a participant's customers' positions and related collateral.**

## **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 materialize. Further, liquid net assets should at all times 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.**

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 on the CSD business. The business risks are monitored in Risk and Operations committee and the Executive Committee of Euroclear Finland. 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 3 times per year. The monthly analysis and forecasts are sent to the CEO, the Group PM function and the Management (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.**

### **Determining capital and liquidity needs: internal view based on risks faced by each entity**

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 Adequacy Assessment Process ("ICAAP"). ICAAP establishes high level principles that can be applied to all entities of the Euroclear group, to monitor the sufficiency of their capital. 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.

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 credit, operational and business risks.

As their transactions settle in central bank money, the CSDs have no direct cash relationship with their clients. Consequently, they cannot extend loans or credit facilities to their customers. The CSDs can potentially face a minor 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. Therefore, each CSD of the group is required by its home regulator to hold enough liquidity to cover such risks. Finally, the CSDs are also exposed to the credit risk related to the reinvestment of their cash surplus with their bank counterparties. To limit the credit risk taken on such counterparties, only cash positions are invested utilizing different financial institutions with a long term credit rating of at least A+ and A on average. The maximum cash concentration limit is 25% of core capital of the company with at least 5 different counterparty banks.

### **Determining capital and liquidity needs to ensure continued operation in case of recovery**

In accordance with CSDR CSDs should maintain at least 6 months of operating expenses in order to enable a recovery or an orderly wind-down. At the consolidated level, Euroclear Group also complies with the regulatory capital requirements under Basel II. Both Pillar 1 and Pillar 2 are based on an assessment of the risks faced by the entities (see section above).

The time needed to implement recovery measures is expected to vary, depending on the type of measure to be taken. However, as substantial cost reductions could be pushed through quite rapidly, this would be expected to give ample time to support the implementation of more lengthy options. Intra-group recapitalization may be swift.

**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.**

### **Recovery, restructuring and orderly wind-down plan**

See our replies under Principle 3, Key consideration 4.

The recovery, restructuring and orderly wind-down plan describes options:

- To recover from extreme scenarios
- To restructure the company
- To wind-down the company

### **Maintain at least 6 months of operating expenses**

- See our replies under Principle 15, Key consideration 2. Each Euroclear entity maintains a core capital
- that exceeds 6 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.**

The banks that are considered for the investments of the EFi' cash should at least have a rating in the A range and such investment cannot exceed 3 years. The type of instruments used is limited to 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, restructuring and orderly wind-down plans for the Euroclear entities include options describing how capital could be sought from other group entities or from external stakeholders. See also our replies under Principle 3, key consideration 4 on recovery planning in the group. Euroclear Finland's plan has been approved by its Boards of Directors. The plan is reviewed and updated if necessary but at least annually.

As a 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. Recapitalization via the Group's excess capital can be decided on and implemented quite quickly.

## ***Principle 16: Custody and investment risks***

*An FMI should safeguard its own and its participant's assets and minimize 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 participant's assets at supervised and regulated entities that have robust accounting practices, safekeeping procedures, and internal controls that fully protect these assets.**

EFi holds its own liquid assets with supervised and regulated banks in Finland in accordance with CSDR and internal rating instruction. EFi does not hold any securities for its own purpose.

Due to the nature of EFi business no assets or funds are held on behalf of participants to secure obligations towards EFi.

**Key consideration 2: An FMI should have prompt access to its assets and the assets provided by participants, when required.**

EFi doesn't hold participants assets on their behalf.

EFI has immediate and unconditional access to its cash assets held on its accounts. EFI uses bank accounts specially assigned only for regulatory capital and for no other purposes. CEO authorises the

access to these bank accounts. The authorisations are documented in the agreements with the banks and in the payment system(s) EFi uses to access these bank accounts..

**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.**

EFi doesn't use custodian bank to hold.

**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.**

In accordance with EFi's investment policy and regulatory requirements, funds are required to be accessible immediately with minimal adverse price effect. Regulatory cash are kept in EUR on current accounts.

EFi makes no investments on behalf of its clients.

## ***Principle 17: Operational risk***

**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 ERM framework and covers relating risk management arrangements and procedures to ensure identification, monitoring and management of operational risks.

Euroclear 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

EFi Board has approved Corporate Risk Management Board Policy and Operational Risk Management Board Policy documents which together with the ERM Framework Policy Handbook form the general operational risk framework. The primary goal of the operational risk policy framework documents is to define an operational risk management framework that ensures that Euroclear 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, based on the Basel II definition, is defined as the risk of financial and reputational loss from inadequate or failed internal processes, people and systems. Operational risk subcategories are:

- Employment practices & workplace safety
- Clients, product & business practices
- Execution, delivery and process management
- Internal fraud
- External fraud and cyber
- Business disruption & System Failures
- Damage to or loss of physical assets

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

- ✓ analysing details of incidents
- ✓ annual risk and control self-assessments

Examples of performance and risk indicators:

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

### **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
- 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 to mitigate risks effectively /implement appropriate controls to bring the risk to the target level. Risk mitigating action plans and their target date are logged. Controls may be preventive, detective or corrective (including containment). A key principle is that every risk has an owner.

A risk 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 the EFi management or the Board. Accepted risks are re-evaluated on a yearly basis.

### **Human Resources related policies, processes and controls**

The Human Resources (HR) function has established formal hiring policies providing appropriate assurance that new employees are qualified for their job responsibilities.

New employees and consultants participate in a standard introduction training. In addition, there are informal departmental seminars, supervised on-the-job trainings, and in-house trainings. 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 updates management 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 policies on:

- 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 has 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 (such as 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.

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**

The EFi Board is the ultimate decision making body of EFi. 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 Board Committees (Audit Committee and Risk Committee)<sup>5</sup> are advisory committees which help the Board 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

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<sup>5</sup> A new committee structure will be established in Q4/2018 at the latest. Until that time, the existing committees, i.e. Audit and Risk Committee and Nomination, Remuneration and Governance Committee will continue working under their current mandates and terms of reference.

The Board committees receive input from the internal audit, compliance and risk management functions, and at least once a year verifies whether those functions are working effectively.

The EFi Management is responsible for:

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

#### 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:

- Risk Policy Setting
- Risk Assessment & Measurement; i.e. tools and methods for risk definition and measurement;
- Risk Advice; expert impartial risk advice
- Risk Monitoring
- If needed, escalation of material risk issues to the various Management Committees and Board Risk Committees or local Audit Committees 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.

The local Risk Management function reports to the Risk Committee<sup>6</sup> of the Board on EFi specific matters. As part of a matrix organisation EFi Risk Management function is supported by Euroclear SA/NV Risk Management Division which it also reports.

### **Review, audit and testing**

Control objectives of EFi and Euroclear group 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. These objectives are also collectively reviewed top-down through the regular Positive Assurance Report/RCSA (PAR) self-assessments.

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. At least twice a year, Risk Management coordinates the review of the PAR and stores the update reports to keep an audit trail.

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 and external audits.

**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 sets out the high level objectives for the organization, 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 on a local level. Operational reliability objectives are defined in this context, at different levels.

The Board of Euroclear Finland has defined in the Corporate Risk Management Board Policy, which based upon the Group Board Policy, the following strategic objectives as critical to our success and as

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<sup>6</sup> A new committee structure will be established in Q4/2018 at the latest. Until that time, the existing committees, i.e. Audit and Risk Committee and Nomination, Remuneration and Governance Committee will continue working under their current mandates and terms of reference.

such they take priority over other objectives – meaning we must have a very high certainty of achieving them:

- Support the development of efficient, sound and stable markets through provision of (operationally and financially) efficient post-trade services and robust risk management arrangements;
- Enhance Euroclear Finland’s reputation for stability and security by demonstrating that we have an appropriate, clearly defined strategy underpinned by a robust, financially resilient and sustainable business model and operational excellence;
- Enhance our reputation with each of our regulators through full compliance with legal and regulatory requirements; and
- Reinforce our reputation for operational excellence through providing resilient, reliable, and secure post-trade services.

EFi systems related quantitative reliability objectives are primarily defined by the business owners and are documented in the Euroclear Finland (EFi) IT service table document and service level agreements (SLAs). An example of the objectives is that the recovery time objective of a core service during business targets is two hours.

A 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 EFi 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 Internal Control System (ICS) over time.

The 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. The high-level control objectives are supported by level-two control objectives, agreed with business management. They explain in more detail how business areas can achieve their high-level control objectives. The control objectives are the foundation of the Euroclear group internal controls system.

The level-two control objectives are supported by the implemented controls and control processes. 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 control objectives are also the basis of the annual risk and control self-assessments executed by the departments.

Internal assessments, client interactions and surveys, as well as the monitored track record of operational reliability and follow-up of all incidents, allow EFi management assessing, whether the achieved levels are matching the set requirements.

The majority of operational processes are frequent and recurring activities which are supported by standard operational procedures. These processes are updated in case any deficiencies are identified,

e.g. when having lessons learnt session in case of an incident. Operational processes and controls are also an essential part of all projects.

**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 to identify potential issues ahead of time. Actions are taken to increase capacity (or rebalance workload) as thresholds are approached.

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.**

The Euroclear Operational Risk policy framework documents comprise policy goals for Corporate and Information security. In addition, EFi has the Local Security policy approved by its Board. The policy is established to meet local needs and regulatory requirements and sets out the objectives and the associated responsibilities for the areas of Physical Security and Information Security including IT Security.

Identifying, monitoring, assessing, and managing the full range of physical and information security vulnerabilities and threats on an on-going basis is part of the operational risk management framework.

### **Physical security**

Detailed procedures have been defined at EFi 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 our 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. We are also complying with insurance company recommendations.

### **Information security**

Information security is defined 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

Information Security Management System has also been implemented and describes how information security (IS) within the Euroclear group and locally is organised, managed, implemented and monitored. It translates the Board's intent into more detailed IS control principles and measures in order to protect Euroclear's and clients' critical assets and it outlines the roles and responsibilities for information security.

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 basic principle within EFi is that the security responsibility is a line responsibility that follows the organisational hierarchy within EFi. Senior Management has the overall responsibility, whereas each head of department has the security responsibility within his/her area of delegation. All information resources must have a defined owner. Business areas own the production information systems and the information therein. The IT department has appointed an IT Security officer who is responsible in association with the assigned System Owners to oversee the confidentiality, integrity and availability of information. EFi IT department is responsible to design and maintain an adequate and effective IT security environment, consisting of technical architecture, standards, tools, processes and services. EFi IT department is supported by ESA Chief Security Officer and ESA Information Technology Security Management department.

The EFi Management Committee retains responsibility for monitoring and overseeing policies, issues and exceptions that are relevant for EFi.

The formal policies and standard procedures governing Information Security are based on internationally recognised control standards, such as Directive on Security of Network and Information System, CPMI IOSCO Guidance on Cyber Resilience for FMIs, ISO/IEC 27000:2013 series, ISO 22301, ISO IEC 31000, COBIT and ITIL. Additionally, where personal or sensitive personal data is concerned, we apply EU and relevant national legislation.

Our 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.

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 earlier 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.
- The tools provide an 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**

EFi maintains Business Continuity plans both corporate and department level. Plans are reviewed annually but also after significant changes. The Business continuity policy is approved by EFi Board and the corporate level plans by EFi CEO. The head of the departments are accountable for their own departments' plans. Business Continuity Plan Coordinator coordinates that plans' procedures are done according to the plans.

The Business Impact Analysis ("BIA") is the foundation of our Business Continuity Management ("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 thus 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 Euroclear operational risk management framework.

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

- guidelines on how to use the plan
- the process to alert and activate the crises 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

## **Design of business continuity plan**

EFi has two data centres:

- EFi hardware is located in two data centres, both of which are in Finland and geographically separated into two places with different risk profiles.
- Both data centres have real time production, testing and office environments
- Both data centres can run EFi's services as stand-alone sites
- Connections between data centres and EFi office and also customer connections are duplicated

For high criticality applications, the Recovery Time Objective is two hours and the Recovery Point Objective is to have zero data loss.

In addition to the primary office EFi has a geographically-dispersed backup office, from which operation can be resumed, should the primary office be unavailable. EFi has also capacity to allow employees to work from their homes and a cross border solution is also in place. Offices and IT sites are separate and independent from each other. The backup office site has no permanent staffing, but is frequently tested by EFi departments.

In the event that a participant is unable to access or feed our system from their own systems, e.g. due to communications error or inoperable participant systems, EFi offers the participant the option to get access into EFi settlement systems in our office.

The system development methodology includes principles and guidelines with regard to 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. The core processing systems and networks are designed to provide resilience through the use of mechanisms including mirroring 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.

EFi's processing systems mirror production and office data between the two data centres. Hence, the status of transactions is known even in case of a disruption affecting one data centre.

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

- To outline the BCM system which we operate
- To ensure that we are 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 our business culture

Procedures and checklists are maintained and made available in various ways to enable the effective management and control of the services at all times, also in case of emergency.

Standard introductory training for new staff covers Business Continuity. BCP awareness updates, exercises and training are provided on a regular basis to staff, using different communication channels and tools.

### **Crisis management**

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

The crises management team of EFi consists of about a dozen key managers of the company, and can be alerted within minutes at any time. It uses several independent technologies for efficient communication like mobile and fixed phones, phone conferencing, SMS-message services and emails. All members of crisis management team carry plastic cards with the needed contact information.

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 to clients, staff, regulators and potentially to the press. Communication processes, recipient lists contact numbers and the roles on by whom and how communications is done, all forms part of the common and departmental BCPs.

New crisis management team members receive a specific training related to crisis management processes.

### **Review and testing**

The Business Continuity plans are reviewed annually. 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.

The Risk Management function has the overall role of coordinating and promoting BCP testing and reviews. Risk Management also consolidates management reporting of the testing and its outcome to management, Audit and Risk Committee and to the group. These tests include:

- Data Centre failover and Network device failover tests are run at least twice/year to ensure that the set Recovery Time Objective can be received in case a Data Centre is lost.
- Back-up office premises tests, simulating the loss of the premises is organised at least twice/year for each department running any critical function
- Several crisis management exercises (alerting tests or desktop or simulation exercises) are organised every year

If there is a switch of the processing site during an interruption, it does not require actions from participants or EFi. Thus, there is not any particular action for a participant to take during failover tests.

Staff from the outsourcing partners participate to the systems related tests, as they provide the system operations staff actually performing the tests on our request.

**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.**

### **Risks to the FMI's own operations**

The Operational Risk Board Policy defines policy goals for services delivered by third parties as well as 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 Euroclear 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. EFi has identified Critical Service Provides i.e. CSPs which are under specific monitoring and surveillance.

Euroclear has identified the required roles, and assigned appropriate responsibilities to manage and monitor its service providers. Service delivery is reviewed on a regular basis. Services are measured and compared with targets to identify whether the objectives are met, and where applicable, what actions need to be taken to improve the service.

Part of The IT services have been outsourced to different service providers. Service delivery is reviewed on a regular basis through Key Performance Indicators (KPI). Corrective actions are requested when the agreed KPI are not met.

Euroclear has signed contracts with different providers avoiding that a single provider would put Euroclear operations at risks.

By the contract, Euroclear's auditors have the right to audit the relevant arrangements of the service provider.

Concerning their participants, Euroclear (I)CSDs are providing financial market infrastructure services. 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 counterparts and may pose risks to the efficiency of the systems, e.g. the settlement ratio. Such risks are mitigated in several ways, e.g. by:

- participant admission criteria, the continued follow-up of these by annual due diligence visits and daily participant monitoring (plus ad-hoc situations).
- continuous monitoring of system usage and by incitements by participants to follow the established user rules
- offering participant the possibility to use different network providers.

In the framework of its market links, Euroclear (I)CSDs review operational risks aspects of linked

(I)CSDs or local custodians used as an intermediary to access foreign markets.

### **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 a Euroclear (I)CSD would not be available, this would have a significant impact for participants (e.g.: late settlement, potential liquidity issue for participants who were expecting to receive cash), other FMIs such as CCP (e.g.: difficulties to identify margin calls / buy in to be processed) and central banks (e.g.: 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), Euroclear is participating to a number of national working groups focusing on crisis preparedness and business continuity management. Euroclear's (I) CSDs participates to 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***

**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.**

Participation and access rules are defined primarily in Finnish legislation. Euroclear Finland has a transparent participation process with participation criteria's publicly disclosed on home page through Euroclear Finland Rules and CEO's decisions. Additionally Euroclear Finland retains a fully disclosed participation process detailing necessary documentation for a complete [Euroclear Finland membership application](#) and to support interested parties. A document detailing the [Euroclear Finland affiliation process is available through the webpage](#).

Different memberships are offered at Euroclear Finland and interested parties can apply for roles depending on business needs. All membership applicants are assessed against the same access criteria, though depending on the role applied for. While they may differ in details the structure of criteria's remain harmonized cross the various roles.

A participant may join the Euroclear Finland's system as a clearing party/settlement member (clearing and settlement system), as an account operator/depository participant, as issuer, or an issuer agent.

While Euroclear Finland maintains the membership structure on a non- discriminatory basis only applicants able to demonstrate the ability to be coherent with Euroclear Finland requirements are approved for membership. Euroclear Finland may be exposed only to operational risk unlike a FMI interposing itself between participants as counterparty to both seller and buyer. Applicants will be assessed against such risks on a non- discriminatory basis.

**Key consideration 2: An FMI's participation requirement 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.**

The requirements for participation are justified in terms of safety and aim to limit specific risks, including operational risks (such as technical connection, organization and risk management) and financial risk (capital resources).

The requirements are viewed as objective as they are focused on minimizing the risk for a participant causing disturbance in the processes within the Euroclear Finland's systems. All roles of participation are subject to the same set of criteria. However there may be differences depending on specifics of the role or specific needs due to regulation.

Euroclear Finland's Rules are publicly disclosed on our homepage including criteria and requirements for participation.

**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.**

### **Euroclear Finland's systems**

Euroclear Finland holds regular surveillance meetings with all its participants to ensure compliance with the provisions issued on the operation of Euroclear Finland as well as with the Rules, decisions and instructions issued thereunder.

Euroclear Finland shall notify the FIN-FSA of an action by a participant which is apparently in violation of the said provisions, rules or decisions unless the action is corrected without delay or the state of the matter is otherwise mended.

Participants using the services of Euroclear Finland shall, upon request, submit to Euroclear Finland the detailed information necessary for the fulfilment of the duty to supervise in accordance with the law.

Euroclear Finland has an independent Disciplinary Board attending to violations of the provisions applicable to participants entitled to impose financial sanctions up to €200,000. The Disciplinary Board operates in connection with the Disciplinary Board of NASDAQ OMX Helsinki Oy under a separate set of procedural rules.

## ***Principle 19: 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.**

### **Tiered participation arrangements**

Euroclear Finland has contractual relationships with its direct participants (direct participation model) and it does not pose itself in the relationship between participants and their underlying clients.

Participants are responsible for the execution of all transfer orders registered in the Euroclear Finland's system on behalf of the participant. Even in cases where the trade that has given rise to the transaction has been initiated by a party other than the participant itself, it is nevertheless the duty of the participant to ensure that the delivery of the securities and the payments registered under the participant identity can be settled on the agreed settlement day.

In accordance with CSDR, EFi is entitled to receive information from its key participants on their transaction volumes and values, material dependencies between its participants and its participants' clients and their potential impact on other participants of EFi. Additionally EFi identifies its participants' clients responsible for a significant proportion of transactions processed in EFi and whose transactions, based on their volumes and values, are significant relative to the respective participants' risk-management capacity.

### **Risks to the FMI**

As Euroclear Finland has no contractual relationship with indirect participants, there is no credit, legal, market or liquidity risk to Euroclear Finland from them. Nor does Euroclear Finland have technical connections to indirect participants, and thus no system participation commitments vis-a-vis them.

Risks from underlying customers need to be mitigated by the participants, as only they are liable to Euroclear Finland. Euroclear Finland handles risks from participants (participation criteria, regular due diligence checks, etc.), but not beyond the participant. Actions undertaken and transactions submitted to Euroclear Finland from a participant, includes what comes from their underlying customers. Risks to Euroclear Finland are therefore seen as risks stemming from the direct participant.

Direct participants to the FMI may be subject to risks from the underlying participants, while the risks to Euroclear Finland are limited to operational risks from the direct participants.

Indirect participants do impact volume and turnover level of direct participants hence these are included in Euroclear Finland's overall assessment of members from a performance point.

**Key consideration 2: An FMI should identify material dependencies between direct and indirect participants that might affect the FMI.**

For operational risk there might be impact on the CSD from these dependencies:

- Participants' clients responsible for a significant proportion of transactions processed in EFi and
- whose transactions, based on their volumes and values, are significant relative to the respective participants' risk-management capacity.

These risks are controlled by the leverage Euroclear Finland has on its contractual parties, i.e. the direct participants: if the participants fulfil the contractual obligations to Euroclear Finland (the participation criteria, the Euroclear Finland rules, deadlines, the need to have sufficient capacity, trained staff, etc.). If participants do not fulfil the above, they carry the full responsibility via Euroclear Finland and they are the ones Euroclear Finland can exercise sanctions against.

**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.**

For the purpose of orderly and robust settlement Euroclear Finland monitor the participant behaviour to preserve operational stability and to maintain efficient settlement of transactions. Part of this is to have members oblige to very high standards of the Euroclear Finland rules and regulations in terms of robust operational resources partly it is to ensure members behave in a way that is not detrimental to the overall market efficiency.

Through extensive arrangements, it is ensured that participants are able to access and settle own and client trades under severe circumstances. While Euroclear Finland is not itself financially exposed to the performance of indirect members to the settlement systems this is the case for direct members settling on behalf of such actors. Euroclear Finland monitors the performance on participant level, trends to volume and turnover are observed by use of detailed participant & market data available to Euroclear Finland. Through market analysis trends that may impact settlement at Euroclear Finland are detected and if possible appropriately addressed by Euroclear Finland.

Euroclear Finland may observe behaviour detrimental to operational robustness and market efficiency even for indirect participants and decide on necessary actions based on the contractual relationship with the direct participant. Though this approach is limited to the operational risk in the sense that Euroclear Finland's ensure that even though the direct participant is exposed to severe disturbances it can maintain its operation functionality i.e. settlement of transactions and book- entry transactions. This is prevails the overall market stability by through the operational functionality of the securities settlement system. With the possibility of very opaque multiple layering between market participants Euroclear Finland has no means or need to track such participation instead this form part of the assessment of the direct participant. Euroclear Finland focuses on securing that the direct participants are fulfilling their obligations to Euroclear Finland, including having sufficient capacity to handle its volumes, wherever they originate.

**Key consideration 4: An FMI should regularly review risks arising from tiered participation arrangements and should take mitigating action when appropriate.**

The Rules and decisions concerning Euroclear Finland services are documented and published on the Euroclear website. Transactions and other business interaction from tiered participants are covered by the Rules of Euroclear Finland when they pass via direct participants. Rule changes are consulted with participants.

Euroclear Finland monitors the system and participants for capacity, volumes, settlement ratio and other measurements. Euroclear Finland also pays due diligence visits (so-called surveillance meetings) to direct participants to verify that the participation criteria are fulfilled. Euroclear Finland takes mitigating actions when relevant, e.g. to cater for changed volumes, changed market practices, or unsatisfactory participant performance, e.g. concerning the settlement ratio or incurred delays.

## ***Principle 20: FMI links***

**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.**

Euroclear Finland primarily establishes FMI links directly against CSDs or (I)CSDs.

Prior to entering into link agreements Euroclear Finland [both when acting either as the requesting CSD (i.e. investor CSD) or receiving CSD (i.e. issuer CSD)] performs a comprehensive due diligence that covers the link arrangement, rules and contractual aspects, market characteristics while also including the assessment of the CSD's markets requirements compliance with respective Finnish requirements, such as settlement finality provisions, transparency (availability of shareholder and other owner information) and compliance with corporate action and tax reporting provisions.

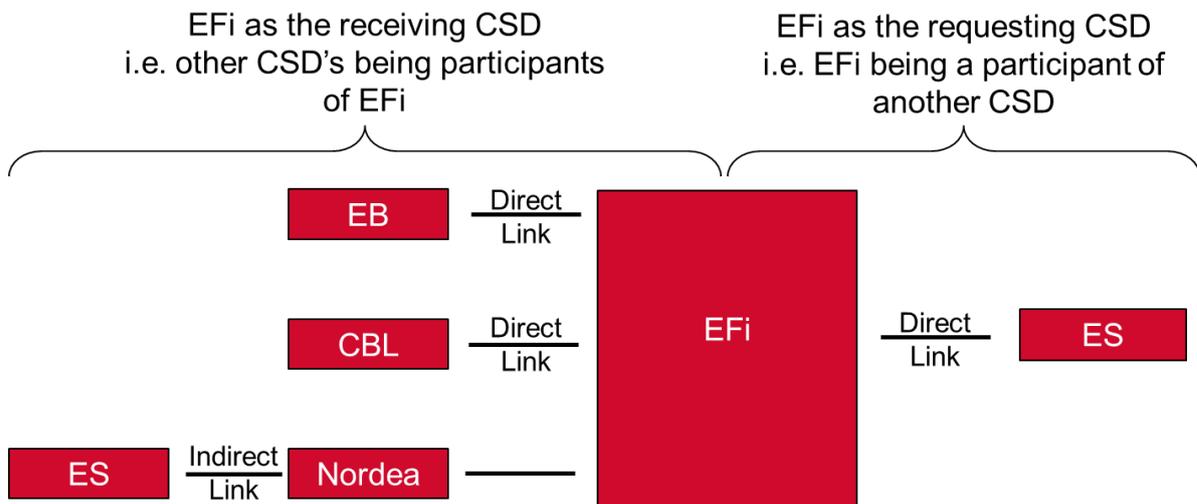
The due diligence builds around a risk analysis of the link emphasizing contingency routines and operational risks with regard to link arrangements. Furthermore the due diligence includes a legal and an operational part detailing characteristics such as the availability of segregated accounts, local market practice, applicable local legislation and other legal requirements. For links that are in place Euroclear Finland ensures that arrangements remain appropriately designed by an assessment based on the same principles as the due diligence.

**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.**

The requirements for link arrangements have been described in EFi's Rules and decisions, and a standard participant agreements are required from also FMI's as direct participants of EFi. EFi requires additionally an external legal opinion from a foreign FMI to ensure that any counterparties to link arrangements are under supervision by local regulatory authorities, and that the FMI's legal framework and domestic law are in compliance with Euroclear Finland's Rules and CEO's decisions

EFi has one standard link with another CSD, Euroclear Sweden, where EFi acts as the requesting CSD, and is a direct participant in Euroclear Sweden, as shown in the picture below. The set-up is mainly issuer driven, as Swedish issuers with a large Finnish shareholder base have wished to provide these shareholders an easy access to their shares.

The link will provide for Free of Payment settlement only, so DVP settlement will not be possible. The FOP settlement is due to lack of market demand and EFi does not currently have facilities for pre-funding of cash for settlement (Article 84 2 (b)). Consequently there has been no need to appoint a financial institution to carry out payments on behalf of EFi.



EFi has 3 links where EFi acts as the receiving CSD. These are with:

- Euroclear Bank;
- Clearstream Bank, Luxembourg
- Euroclear Sweden (ES)

The link which Euroclear Bank has with EFi is an operated standard link established in 2011, for which Euroclear Bank has appointed EFi to act as its operator. Euroclear Bank allows its customers to settle cross-border transactions against payment (DVP-settlement supporting link).

The link which Clearstream Bank has with EFi is an operated standard link established in 2013. Clearstream Bank allows its customers to settle cross-border transactions against payment (DVP-settlement supporting link).

These links will be annually assessed and monitored according to EFi's Risk Assessment Guidelines.

The same standard communication protocols are used in the prescribed standard links as for other participants are used, as evidenced in D5001-1 and D5001-2.

The link Euroclear Sweden has with EFi is an indirect link, where ES has appointed Nordea to act as its intermediary. Nordea as intermediary however, being a direct participant of EFi will be assessed according to D3001-10 Risk Assessment Guidelines. Additionally, as a participant Nordea is also subject to annual surveillance meetings utilising D3001-3 Surveillance Meetings Euroclear Finland.

Euroclear Finland has IT surveillance in place 24/7, and operational staff in place between 08:00-19:00 EET for monitoring links settlement.

**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.**

Euroclear Finland does not act as a credit institution, nor does Euroclear Finland grant credit to its participants in any form. Euroclear Finland handles all cash distributions in accordance with its routines and procedures.

**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.**

Euroclear Finland does not allow for provisional transfers.

**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.**

With all links setup as Euroclear Finland becoming member to the Issuer CSD it is essential that rules and the regulatory framework of the Issuer CSD does not defer any of the obligations Euroclear Finland has with its participants. Given the preparations and due diligence performed by Euroclear Finland prior to engaging in link activities with an Issuer CSD the rights and obligations relating to Euroclear Finland's participants are ensured. For example this will create clarity and transparency surrounding finality, ownership rights and obligations.

**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.**

Efi performs risk assessments and monitors the link arrangements according to its Risk Assessment Guidelines. In case of an indirect link, Efi assesses the additional risks related to the indirect link and the intermediary used by the requesting CSD.

At the moment Efi doesn't have indirect links where it would itself be the requesting CSD.

**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.**

N/A to Efi as being a CSD.

**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 fulfill its obligations to its own participants at any time.**

N/A to Efi as being a CSD.

**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.**

N/A to Efi as being a CSD.

## **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 a user-owned and user-governed organisation and operates in a competitive environment, so it must meet the needs of its participants and the markets it serves. Each country where an entity of the Euroclear group acts as a CSD, such entity has a so-called Market Advisory Committee ("MAC"). The MAC is a primary source of feedback and interaction between the Euroclear Group and the user community on significant matters affecting their respective domestic markets. Due to the ongoing Infinity project, the MAC has focused its work on the follow up of the project, which is the most significant change in the history of the Finnish post-trade after the introduction of the book-entry system in 1992.

Additionally, a User Committee has been established and began its work 6.9.2018 with representatives from issuers and participants. The User Committee provides independent advice to the Board of EFi on key arrangements that impact EFi's clients, such as criteria for accepting issuers and participants, service level and significant developments needed to adapt to market changes.

Regular day-to-day contact is maintained with clients by commercial, service partner management and operational teams.

**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.**

EFi Board provides an annual basis, goals and objectives for the organisation and management as key priorities for the year with a Balanced Score Card ("BSC") and objectives for IT uptime.

The KPIs are to ensure that Euroclear Finland works in the right direction to achieve the objectives in each of the areas (general areas, which are concretised through various KPIs in the BSC:

- Client satisfaction,
- Financial strength,
- People and organization,
- Operational performance.

EFi Operational performance is followed up with defined key KPIs and ensures secure and accessible services. Operational performance level is measured through system availability (uptime of systems showed in percentages) with expected target uptime for critical transaction processing 99,9%.

Client satisfaction and people and organisation related matters are, among others, measured through annual surveys.

**Key consideration 3: An FMI should have established mechanisms for the regular review of its efficiency and effectiveness.**

The BSC is central in the measurement of efficiency and effectiveness, as this is a tool, on an aggregated level, that measure Euroclear Finland efficiency. The elements of the BSC are part of the organisations objectives and the BSC is followed up during the calendar by management. Client satisfaction survey is standard follow-up item in the BSC.

## ***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.**

Euroclear Finland uses internationally well accepted communication procedures while offering members several options in establishing communication for transfer of data between themselves and Euroclear Finland. Members have the choice of accessing EFi via the NCSN Network or SWIFTs own globally established IP based network (SWIFTnet).

Euroclear Finland applies ISO15022 and ISO20022 communication as per SMPG standards enabling use of the standard for clearing, settlement and transfer of securities. Proprietary messages are used for limited needs where standard messages are not available (such as securities accounts' maintenance). For the purpose of transfer cross border i.e. CSD links of securities Euroclear Finland participants are exclusively using ISO standardized messages.

In the area of corporate actions message standards, both proprietary and ISO15022/20022 standards are available.

Euroclear Finland uses the ISIN to identify financial instruments. Participants can always use the ISIN to instruct and receive reporting with the ISIN if they wish.

## ***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.**

## Rules and procedures

Euroclear Finland's self-regulation consists of the Rules of Euroclear Finland and CEO decisions based on the Rules. Participants and issuers shall comply with Euroclear Finland's Rules and decisions provided on the basis of the Rules in force from time to time. The Rules are applied to the book-entry system and settlement operations, issuance, participant and issuer access criteria, surveillance as well as links and cross-border settlement.

Euroclear Finland's Rules are ratified by the Ministry of Finance after having first received statements from the Bank of Finland and the Finnish Financial Supervisory Authority.

The decisions of Euroclear Finland's CEO complement the Rules and the decisions may only be issued on the basis of a separate authorization prescribed in the Rules.

## Disclosure

Entry into force, amendment and publication of the Rules is regulated in the Chapter 1.4 of the Rules. Euroclear Finland's Rules and decisions are accessible and available for downloading both to the public and to the participants on Euroclear Finland's website ([www.euroclear.com](http://www.euroclear.com)). Participants are notified of publication, the amended points and the time schedules for changes by email at the addresses given by them.

Any amendments to the Rules and CEO decisions are prepared in cooperation with participants and issuers. Before Euroclear Finland's Board approves an amendment, all the parties affected by it must be afforded an opportunity to comment on the proposed amendment. Without prejudice to this, comments may be invited from an organization representing the issuers instead of requesting separate comments from each issuer.

**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.**

Euroclear Finland website is divided into a public section and one which requires you to log in. The log in section is called MyEuroclear. Everyone can access MyEuroclear but this area is password protected so a user profile must be created first to log in. In the MyEuroclear section, registered clients can access a wider range of information dedicated to participants only. Descriptions concerning system's design and operations are accessible to clients through MyEuroclear section. Participants are also notified of the publication of the descriptions via email.

Notifications of any major changes are given to Euroclear Finland's software interface users in the form of a written bulletin three (3) months in advance. If the change is only a minor one and does not affect message structure, the change is notified one (1) month in advance.

The operating principles of Euroclear Finland's systems may be changed at short notice only if the change does not affect data communication between a party and Euroclear Finland or if all parties concerned approve the change faster.

Participant's rights and obligations are defined in the Participant Agreements, the Rules of Euroclear Finland and CEO's Decisions provided on the basis of the Rules.

**Key consideration 3: An FMI should provide all necessary and appropriate documentation and training to facilitate participant's understanding of the FMI's rules and procedures and the risks they face from participating in the FMI.**

Euroclear Finland requires new participants to undergo mandatory training and testing before they start acting as participants of Euroclear Finland. After setting up the test environment, participants have the availability to use it for free.

The CSD informs the Financial Supervision Authority of any procedure that is likely to be in violation of the above-mentioned provisions or regulations or the Rules of the CSD unless the procedure is immediately corrected or the situation is otherwise remedied. However, if the provisions, regulations or rules have been materially or repeatedly violated, a notification shall always be done.

Participants and issuers using the services of the CSD shall, on request, submit to the CSD the detailed information necessary for the fulfilment of the duty to supervise.

If participant's behaviour demonstrates a lack of understanding of knowledge on post-trade procedures or Euroclear Finland's Rules and procedures, Euroclear Finland asks the participant to immediately correct the behaviour. Euroclear Finland may also require attending further training if it is needed. Besides, Euroclear Finland meets its participants regularly. Following these meetings Euroclear Finland would ask the participants for corrective measures including additional mandatory training if needed.

**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.**

Euroclear Finland website is divided into one public section and one which requires you to log in. The log in section is called MyEuroclear. In the public section, Euroclear Finland provides information about service offerings, new products from across the Euroclear group as well as news and press releases.

Euroclear Finland publishes its list of fees on the web under the MyEuroclear section together with example fee calculations. According to the participant agreements, Euroclear Finland's price list and any amendments thereto enter into force at the earliest three (3) months after Euroclear Finland's decision on the price list, unless the participant approves an earlier effective date. Thus clients are informed about changes to the list of fees at least three (3) months prior to implementation.

Euroclear Finland does not provide general discounts.

**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.**

The Disclosure Framework is available on Euroclear Finland's website.

The main source of public communication for Euroclear Finland is the web page where information related to Euroclear Finland is published in Finnish and English. Euroclear Finland provides a selective number of statistics covering settlement and shareholder information on a monthly basis on the web page. The web page is also continuously up-dated with various news covering current affairs and updates from the Euroclear Finland and the various entities in the group.

## ***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.*

**Key consideration 1: A TR should provide data in line with regulatory and industry expectations to relevant authorities and the public, respectively, that is comprehensive and at a level of detail sufficient to enhance market transparency and support other public policy objectives.**

N/A to EFi being a CSD

**Key consideration 2: A TR should have effective processes and procedures to provide data to relevant authorities in a timely and appropriate manner to enable them to meet their respective regulatory mandates and legal responsibilities.**

N/A to EFi being a CSD

**Key consideration 3: A TR should have robust information systems that provide accurate current and historical data. Data should be provided in a timely manner and in a format that permits it to be easily analysed.**

N/A to EFi being a CSD