

# Global Risk Intelligence

## ATHEXCSD

### CPMI-IOSCO PFMI Disclosure Framework

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**ATHEXCSD**  
Central Securities Depository

## Table of Contents

Executive Summary .....	3
About this assessment exercise .....	3
About ATHEXCSD .....	3
Changes to ATHEXCSD since the previous assessment.....	5
Assessment .....	6
Principle 1: Legal.....	6
Principle 2: Governance .....	11
Principle 3: Framework for the Comprehensive Management of Risks .....	20
Principle 4: Credit Risk .....	27
Principle 5: Collateral .....	27
Principle 6: Margin.....	28
Principle 7: Liquidity Risk .....	28
Principle 8: Settlement Finality .....	28
Principle 9: Money Settlement.....	31
Principle 10: Physical Securities.....	35
Principle 11: Central Securities Depositories.....	35
Principle 12: Exchange-of-value Settlement System.....	39
Principle 13: Participant-default Rules and Procedures .....	42
Principle 14: Segregation and Portability.....	45
Principle 15: General Business Risks.....	46
Principle 16: Custody and Investment Risks .....	55
Principle 17: Operational Risk .....	59
Principle 18: Access and participation requirements .....	72
Principle 19: Tiered Participation.....	75
Principle 20: FMI Links .....	75
Principle 21: Efficiency and Effectiveness .....	81
Principle 22: Communication Procedures and Standards .....	83
Principle 23: Disclosure of Rules, Key Procedures and Market Data .....	84
Principle 24: Disclosure of Market Data by Trade Repositories.....	91

# EXECUTIVE SUMMARY

## About this assessment exercise

ATHEXCSD commissioned Thomas Murray for the second time to assist in the CPMI-IOSCO self-assessment of the Principles for Financial Market Infrastructures (PFMIs) as part of Greece's efforts to comply with mandates set by G-20 authorities. Thomas Murray, as an independent capital markets expert, conducted an analysis of ATHEXCSD's practices and arrangements in the context of the assessment methodology defined by CPMI-IOSCO.

The approach taken by Thomas Murray is based on its well-established methodology designed to assess CSD risk in the context of best global practices. The Thomas Murray methodology has been employed to assess 140 CSDs worldwide for the last 20 years. The approach used also relies heavily on its experience conducting CSD public ratings since 2006.

ATHEXCSD's assessment consisted of three stages: data collection, due diligence visit and remote analysis. During the first stage ATHEXCSD completed a questionnaire designed by Thomas Murray to efficiently gather all the relevant information on ATHEXCSD. This included copies of the legal framework governing ATHEXCSD's operations and any other supporting material needed for the assessment.

The data was analysed and a preliminary report was generated prior to conducting the due diligence visit in April 2023. During this visit, Thomas Murray held discussions with all of ATHEXCSD's departments, market participants, the stock exchange, the regulator, and the central bank. The third stage consisted of analysis of the data collected in the first two parts of the assessment. The findings from this process are documented in this paper.

The document follows the structure of the PFMIs as published by CPMI-IOSCO. Accordingly, there is a section for each Principle. Each section contains a summary of the Principle, which is a high level description of ATHEXCSD's arrangements in the context of the topic addressed in that Principle.

## About ATHEXCSD

The Central Securities Depository S.A. (CSD S.A.) was established in accordance with Article 33a of Law 1806/1988 on 22.2.1991 (Government Gazette Issue 434/22.2.1991) as a *societe anonyme* (S.A.) for clearing and settling securities transactions, a task previously handled by an Athens Exchange Department. In November 2006, CSD SA was absorbed by the parent company of the Hellenic Exchanges Group under the name HELLENIC EXCHANGES SA Holding, Clearing, Settlement and Registration (HELEX). In 2010, the clearing function was segregated and assigned to ATHEXClear S.A. On 19 December 2013, following decisions of the relevant General Meeting of the companies

involved, a corporate restructuring of the HELEX group was concluded. Subsequently the CSD function, its related settlement and registry services as well as the administration of the DSS underwent a spin-off from HELEX and absorption by the Thessaloniki Stock Exchange Centre, (a 100% subsidiary of HELEX, which was renamed HELLENIC CENTRAL SECURITIES DEPOSITORY SA (ATHEXCSD,)) and moved its headquarters to Athens. At the same time, HELEX absorbed Athens Exchange (ATHEX), another 100% owned subsidiary of HELEX, which is licensed as an Organised and Alternative Market Operator under MiFID and offers organised market services (listing and trading) in the Hellenic capital market under the name Hellenic Exchanges – Athens Stock Exchange S.A.

The corporate transformations were approved by the Hellenic Capital Market Commission (HCMC) and the Ministry of Commerce, and the transformations were registered in the General Commercial Registry (GEMI). Consequently, ATHEXCSD became the administrator of the Dematerialised Securities System and acts as the Central Securities Depository under authorisation granted by Laws 3606/2007 and 3756/2009, as amended by Law 4569/2018. In April 2021, ATHEXCSD received authorisation by the HCMC to offer services under Regulation (EU) 909/2014 on Central Securities Depositories (CSDR).

ATHEXCSD is one of two CSDs on the market, the other being the Bank of Greece (BoG). There are fluid relations between the two and a nominal rule that BoG provides custody services for government debt securities and ATHEXCSD provides the same service for dematerialised equities. The use of the clearing, settlement and registry system operated by ATHEXCSD and ATHEXClear is compulsory for all listed corporate securities on ATHEX. However, government debt is not exclusive to BoG and can be traded on ATHEX, cleared by ATHEXClear and settled through ATHEXCSD.

ATHEXCSD uses the DSS system to clear and settle OTC payments. DSS settlements operate on matching cycles, running every fifteen minutes, from 9.00am to 5.20pm. The market deadline for same day settlement instructions remains on SD, at 4.45pm. The DSS system is well established and has been upgraded to support auto-analysis of settlements of sales transactions for accounts that do not have sufficient holdings at the time of input and to allow analysis before Settlement Date (T+2). On-exchange transactions via an intermediary are possible – ATHEX Exchange sends a settlement instruction to ATHEXCSD, this is relayed to custodians via SWIFT. ATHEXCSD validates the trade confirmation from the executing broker against the message from the Exchange and the custodian subsequently sends instructions on T+1. Following confirmation from the custodian, assets are moved on SD as per instruction. The CSD then settles the cash or securities in the Greek Market.

ATHEXCSD uses SWIFT for all cross-border operations, and for all communications proprietary electronic system compatible with SWIFT.

ATHEXCSD's Dematerialised Securities System (DSS) operates multiple intra-day batches for the settlement of securities with cash settlement via Target2 ancillary systems procedure C. There is a batch at the end of the day to force buy-ins relating to failing settlements. The normal settlement cycle is T+2. All securities are held in dematerialised

form. Due to dematerialisation of securities, all listed equities are held at ATHEXCSD (acting as depository). Unlisted securities are also held at ATHEXCSD as legislation permits ATHEXCSD to offer registry services for unlisted securities.

ATHEXCSD acts as a central registrar in the market for all listed securities, and participants have several types of accounts available to them.

## **Changes to ATHEXCSD since the previous assessment**

ATHEXCSD commissioned Thomas Murray to perform an initial assessment of compliance with the CPMI-IOSCO principles in late 2016 and a final report was delivered to ATHEXCSD in August 2017. Since the last assessment, there have been several changes in the market, primarily caused by the implementation of the European Regulation (EU) 909/2014 on improving securities settlement in the European Union and on central securities depositories, also known as the Central Securities Depositories Regulation (CSDR). The new regulation resulted in a series of adaptations in the domestic legal and regulatory framework, and in the operations of ATHEXCSD. Significant changes included the overhaul of the ATHEXCSD Rulebook, which is now more comprehensive, accompanied by more resolutions on new topics like participant default management, and authored by the CSD itself; the introduction of omnibus accounts at a legal and operational level; a new governance structure at the CSD, which saw the introduction of separate risk, audit and nomination committees at the Board; the establishment of a user group; a new, documented risk management framework and associated policies; and a new recovery and resolution plan. Additional changes included the establishment of a new direct CSD link and the replacement of the intermediary to foreign markets; the offering of SWIFTnet access to participants; and a new communication platform for members.

## ASSESSMENT

### Principle 1: Legal

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

### Principle Summary

The key legal concepts for the capital market are well embedded in national law and regulations. Certain key concepts have been enshrined in local law for several years, while others have been implemented as the result of the transposition and implementation of all relevant European directives and regulations. The key concepts include: finality; rights and interest in financial instruments; netting; safekeeping; immobilisation; dematerialisation; delivery-versus-payment arrangements; collateral arrangements; default procedures; and interoperability.

ATHEXCSD's regulation, internal rules, and Articles of Association (AoA) are deemed to be consistent with local legislation. Specifically, ATHEXCSD's Rulebook is a comprehensive document that is compiled as required by national law n. 4569/2018 and with the objective of defining the rights and obligations of all the CSD's stakeholders.

ATHEXCSD makes available through its website the relevant directives and laws, regulations and resolutions for its activities. ATHEXCSD advises participants electronically for any change in the pertinent regulation and resolutions.

#### *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.*

### Description

The Greek legislation provides legal certainty for all material aspects that concern the activities of ATHEXCSD. Apart from all the national legal acts that govern the functioning of the capital market in general and that of the CSD in particular, Greece has transposed all major European directives and implemented European regulations concerning capital markets, including the Settlement Finality Directive (SFD), the Markets in Financial Instruments Directive (MiFID), the European Market Infrastructure Regulation (EMIR) and the Central Securities Depositories Regulation (CSDR).

Law N.4548/2018 on 'anonymous companies' ('Société Anonyme' – S.A.) governs the establishment and operations of S.A. corporations; it is considered as the general Companies Law in Greece. As an independent anonymous company, ATHEXCSD falls under the provisions of the Companies Law.

Law N.4569/2018 is the law that implemented EU Regulation 909/2014 (CSDR) into Greek legislation and replaced law N.2396/1996 with regard to the mandatory dematerialisation of securities, the establishment and authorisation of a CSD by the HCMC, the operation of a system where dematerialised securities must be recorded, as well as the establishment of rights in rem of investors whose assets have been recorded in either segregated or omnibus accounts. Law N. 4569/2018 introduced, mainly, the concept of omnibus accounts in the Greek equities market and provides the legal basis for the rights on securities of underlying clients. The aforementioned Law in common with Articles 27 et seq. of Law N.4706/2020 transposed the Directive 2017/828/EU (Shareholder Rights Directive II) and the Regulation (EU) 2018/1212, set out the shareholders identification procedures.

Finality is well established in the market. Law N.2789/2000 transposed the SFD in Greek legislation, stipulating that transfer orders are legally enforceable and binding on third parties even in the event of insolvency proceedings against a participant, provided that these transfer orders were entered into a system before the moment of opening of such insolvency proceedings. Despite the clear legal provisions, finality is defined quite broadly in the ATHEXCSD Rulebook, which is discussed in more detail in Principle 8.

Law N.2789/2000, apart from the notion of finality, defines the point in time when netting instructions become irrevocable and enforceable.

Delivery-versus-Payment (DVP) and Free-of-Payment (FOP) arrangements are not defined in national law. However, ATHEXCSD's Rulebook makes several provisions of DVP and FOP, especially in Section V, Part 3 of the Rulebook. Resolution 5 of the Board of Directors of ATHEXCSD defines all the terms, procedures, and technical aspects of settlement in DSS. The ATHEXCSD Rulebook is published in the Government Gazette and all its provisions are legally enforceable.

Collateral arrangements are defined in law N.3301/2004, which is the transposition of the EU Financial Collateral Arrangements Directive. The ATHEXCSD Rulebook makes detailed provisions for the creation of pledge accounts and for transactions for collateral purposes. Any book entry securities under pledge have to be handled in accordance with ATHEXCSD's rules.

Law N.3606/2007 sets out the necessary procedures to deal with the default of a member of the clearing or the settlement system, the rights and obligations of the system operator and the enforceability of transactions and the close-out netting concept.

**KEY CONSIDERATION 2:**

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

**Description**

Law N.4569/2018 foresees the existence of a CSD rulebook and stipulates that such rulebook must be approved by the HCMC and must be consistent with all provisions of the law and CSDR. In addition, the law stipulates that HCMC is responsible for ensuring the legality of the rulebook and of any changes in the rulebook. Thus, the Rulebook of ATHEXCSD is considered as highly compliant with the relevant legal framework. HCMC advises ATHEXCSD of any changes to legal and regulatory provisions as they apply to the Rulebook. The Rulebook provides detailed rules for the CSD's functions including issuer services, eligible account structure, account opening procedures, transfers, corporate actions, shareholders' rights, and pledges. The Rulebook is supplemented by several Resolutions issued by the ATHEXCSD Board of Directors for those matters that the CSD must define in more detail, such as fees, system access, settlement procedure, account categorisation, default procedures, and others.

The HCMC regularly ensures compliance of the Rulebook with legal and regulatory requirements during the mandated annual CSDR review.

Since the last assessment, the authorship of the Rulebook has changed from the HCMC to the CSD itself because of the implementation of CSDR. This allows the CSD to provide more detailed and more relevant rules to its participants and to be able to amend it faster. The Rulebook foresees the creation of a Rulebook Amendment Committee that discusses and recommends to the Board of ATHEXCSD amendments to the text of the Rulebook. All types of participants are represented in the committee, thus allowing transparency and engagement with all stakeholders.

There have not been complaints from participants concerning the Rulebook. CSD participants consider the Rulebook as clear, well-structured and comprehensive. If they have questions about it, these are resolved quickly by the Members Support team. There has not been any court ruling challenging the law or regulation in Greece. If inconsistencies are found in ATHEXCSD's rules, procedures and contracts, it takes one month on average to address any issues.

**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.*



## Description

ATHEXCSD makes available on its website the relevant national and EU legislative acts, the Rulebook and the BoD Resolutions supplementing its Rulebook. The documents are currently available in Greek and in English.

The CSD has a 'Regulatory' section on its website, which is split in the following categories:

- Directives & Laws: This is where links to the majority of national and EU acts are listed;
- Regulations: This is where a copy of the ATHEXCSD Rulebook can be found;
- Resolutions: This is where copies of the BoD Resolutions that supplement the ATHEXCSD Rulebook are provided.

The CSD also advises its participants of any changes or adaptations to the legal basis or the rulebook through announcements on the website, emails to members and press releases.

Finally, ATHEXCSD has a dedicated section on the website with the regulatory disclosures that it must publish in compliance with CSDR. These include reports on settlement fails, governance arrangements, criteria for participation, fees, default rules and procedures, CSD links, and others.

**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.*

**Description**

ATHEXCSD provides Issuer CSD services in the Greek market and, as established in the previous key considerations, the CSD is deemed compliant with both national and EU legislation. There is security in the enforceability and irreversibility of its rules, procedures and contracts as they are all based on national laws and are approved by the HCMC. ATHEXCSD's rules, procedures and contracts have a preferential legal status as established in law N.4569/2018 and cannot be voided, reversed, or be subjected to stay, unless they are considered unconstitutional, which is unlikely as the HCMC ensures legality.

All ATHEXCSD participants, whether domestic or foreign, must comply with the requirements of the Rulebook.

There have been no cases where ATHEXCSD's rules or contracts have been challenged in court, and there have not been any legal proceedings against it.

**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.*

**Description**

Apart from its services as the sole issuer CSD in the Greek equities market, ATHEXCSD provides custody services as an investor CSD in several jurisdictions: namely Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Hong-Kong, Ireland, Italy, Japan, Netherlands, New Zealand, Norway, Portugal, Singapore, Spain, South Africa, Sweden, Switzerland, UK, USA. The services are offered through direct CSD link with Clearstream Banking Frankfurt ('CBF', Germany) and SIX SIS (Switzerland).

The legal basis supporting both links is the contract signed between ATHEXCSD and each of these entities. The contracts are typical custody agreements in nature and are governed by German law (CBF) and Swiss law (SIX SIS). The legal team of ATHEXCSD has confirmed that the *lex rei sitae* doctrine applies to property rights in foreign

jurisdictions, i.e., the law governing the property rights over securities is that of the jurisdiction of the repository where the relevant accounts are held.

ATHEXCSD has acquired legal opinions by an independent legal firm for the German and Swiss jurisdictions with respect to segregation levels, applicability of finality in insolvency, rights of investors, and portability. The legal opinions were a requirement under CSDR and had been requested and reviewed by the HCMC. ATHEXCSD has not identified any conflict of laws issues.

ATHEXCSD's links are also governed by the CSDR legal framework on CSD links.

The Rulebook sets out all the necessary provisions in compliance with CSDR and law 4569/2018 for allowing ATHEXCSD to establish links with foreign providers; for the safekeeping of foreign assets; for the settlement procedure in foreign markets; and for the handling of corporate actions of foreign assets.

## Principle 2: Governance

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

### Principle Summary

ATHEXCSD's governance arrangements are defined in national law, AoA and internal rules. The CSD sets out clear objectives for itself in its five-year strategy plan. This strategy document establishes objectives taking into consideration all stakeholders. The latest edition is structured around three action pillars for the enhancement of operations, products, and services.

The responsibilities of the members of the Board of Directors are established in the AoA and are set out in more detail in the Regulation of Internal Operations. Among others, the Board is responsible for setting the strategy and for ensuring regulatory compliance. The positions of chief executive officer and chairman of the board are not held by the same individual.

Senior management is responsible for aligning the CSD's activities with the strategy set by the Board and for ensuring the proper execution of operations, while remaining compliant with internal rules.

ATHEXCSD must maintain a clear separation in the reporting lines between risk management on the one hand, and on all other functions on the other, according to its own rules. ATHEXCSD has a documented risk management framework and there is risk committee and audit committee to the Board

*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.*

### **Description**

The objectives of ATHEXCSD are clearly defined in its AoA, its strategy plan and its Internal Operations Regulation. The strategy document and the Internal Operations Regulation are confidential, internal documents that clearly set out ATHEXCSD's objectives and obligations against all stakeholders (shareholders; issuers; participants; market operators; data vendors; investors; regulators; State).

The aforementioned documents place emphasis on participant satisfaction, risk management, internal control, service efficiency, and system efficiency and effectiveness.

Financial stability is specifically addressed in the internal operations document and the strategy document. The Board is explicitly identified as the responsible body for ensuring the long-term financial integrity of the firm and for setting, monitoring and managing the risk tolerance and risk management of the firm. The Board is responsible for ensuring that ATHEXCSD remains compliant with all relevant regulations at all times, that it is accountable towards all stakeholders, and that its risk management framework is appropriate for the services it offers to the public.

Financial objectives and forecasts are based on certain basic indicators that are continuously monitored, such as average daily and monthly turnover, turnover velocity, market capitalisation, and index performance. Nevertheless, there are reports tracking non-financial key performance indicators (KPI), such as downtime, failed trades, settlement statistics, and others.

In the strategy document, ATHEXCSD performs a SWOT analysis (strengths, weaknesses, opportunities, threats) to form a view of financial vulnerabilities and opportunities and consider its position amongst its European peers.

The CSD is also open and responsive towards its participants. It seeks feedback from participants via several channels and especially in the form of consultations. In addition, ATHEXCSD annually send questionnaires to participants to ensure continuous compliance with its Rulebook.

**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.*

**Description**

As an anonymous company, ATHEXCSD complies with the governance arrangements stipulated in law N.4548/2018 ('Companies Law'). The Companies law establishes the authority of the shareholders' general meeting, sets provisions for the existence of binding AoA and for the representation and management of the anonymous company by a board of directors, and stipulates board duties and management of conflicts of interest.

As a CSDR licenced entity, ATHEXCSD complies with all CSDR corporate governance and organisational arrangements, including well-defined, transparent and consistent lines of responsibility.

All these arrangements have been reflected in ATHEXCSD's AoA and Internal Rules. In the AoA, the general meeting is recognised as the supreme body of the company, while the responsibility of managing the company is assigned to the Board of Directors. The AoA includes provisions for the role and composition, term, representation, authority, duties, conflicts of interest, and compensation of the Board. The Internal Rules provide more detail on all aspects relating to the functioning of the Board, including structure, ethics, duties and compensation policies; give definitions of executive and non-executive members; establish board committees; set up the senior management team and define its duties; describe in detail the management structure; establish the proper lines of responsibility; and provide a full organisational chart.

According to the law, the AoA and the Internal Rules, the Board of the company is accountable to the general meeting of shareholders. In addition, the law stipulates that the company is accountable to the respective competent authority.

Board arrangements and any changes to corporate governance are made public on the ATHEXCSD website and via newsletters to participants.

**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.*

## Description

The general provisions for the responsibility of the Board of Directors are set out in national law and in the articles of association. The duties, roles and responsibilities of board members are set out in more detail in the Regulation of Internal Operations. According to that Internal Regulation, the Board has the ultimate responsibility for managing the risks of the company. It is responsible for ensuring the oversight of business operations through the risk management function and making decisions related to risk management, overseeing the development and implementation of an appropriate internal control system, ensuring the independence and adequate resources of Risk Management, Technology, Regulatory Compliance and Internal Audit operations, and raising risk awareness. The Board is also responsible for setting clear goals and strategies; for effectively monitoring senior management; for ensuring compliance with all relevant rules and regulations; and for holding itself accountable to the shareholders and the relevant competent authorities.

More specifically, the board is responsible for mergers and acquisitions, acquisition and disposal of assets, the investment strategy, capital projects; monitoring the management team; overseeing the risks and controls systems; setting the human resources policy; and establishing long- and short-term strategic plans.

The current Board of ATHEXCSD comprises seven members: one executive member and six independent non-executive members. Independence of board members is defined in in CSDR and EMIR.

The Board meets once a month. According to the Internal Regulation, the members of the Board must carry out their duties in a diligent and ethical manner. Members are barred from pursuing own interests that are opposed to the interests of the company and are obligated to disclose, either verbally or in writing, to the rest of the Board members without undue delay those own interests and any conflicts of interest. Members are allowed to conduct own transactions to the extent that these transactions are not detrimental to the company's interests. If a conflict of interest arises from the aforementioned transactions, then these should be reported to the Board without undue delay. The board member is excluded from voting in matters where a conflict has been identified and declared.

In addition to the stipulations in the AoA, ATHEX has an internal policy for conflicts of interest that applies to all group entities, including ATHEXCSD, and covers the conduct of shareholders, board members, board committee members, directors and executive managers, all other staff, as well as entities that provide services to ATHEXCSD. The policy defines in detail what constitutes a conflict of interest and a transaction of own interest and includes provisions for the management of conflicts. Violations of the policy may result in disciplinary actions and may have legal ramifications.

The CSD discloses the board procedures to the board members, the shareholders and the regulator. The general public is advised about board procedures by the Articles of Association and the CSDR disclosure on governance arrangements. However, neither document deals with conflicts of interest.

Board procedures are reviewed on an ad-hoc basis, whenever it is considered necessary.

Members are appointed by the general meeting of shareholders and have to comply with the internal rules and regulations. The Nomination and Compensation Committee's rulebook defines the scope of the evaluation, which includes the appropriateness of the Board's structure, size, composition and performance, the board members' skills, expertise and knowledge, and the board's performance in relation to the goals set in the annual budget. It also foresees an annual performance evaluation. Considering that ATHEXCSD is a 100% subsidiary of ATHEX, ATHEX as the sole shareholder, has decided to appoint joint members of the Board of Directors of the subsidiaries with its own members for reasons of synergies. In this context, the Nomination and Compensation Committee of ATHEX assesses ATHEXCSD members as well. Specifically, the Committee issues questionnaires to the board members for the self-assessment of their effectiveness collectively as a body and of the contribution of the individual members in the performance of their duties, as well as that of the President and the board committees. In addition, an assessment by an external assessor takes place every three years.

ATHEXCSD operates four board committees: the Risk Committee; the Audit Committee; the Nomination and Compensation Committee; and the User Committee. ATHEXCSD shares the Strategic Planning Committee, as a Board Committee, the Policy Committee and the Information Security Committee with ATHEX, as Committees established by the CEO. Each committee has its own rulebook.

**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).*

**Description**

According to the AoA, the Board of Directors is comprised of five to nine members. The members of the Board are elected by secret ballot by the general meeting of shareholders, in accordance with the provisions of Law N.4548/2018. The members can be shareholders or third parties and can be re-elected and freely revoked by the General Meeting. Their term may not exceed three years.

According to the Regulation of Internal Operations, the Board includes both executive and non-executive members who must have guarantees of professional integrity and an appropriate combination of skills, experience and knowledge of the entity and the market. In accordance with CSDR, the board must comprise at least one third of independent members and no less than two. The executive members deal with the day-to-day administration of the firm and the management of corporate affairs. The non-executive and independent members are responsible for promoting all

corporate issues, supervising the management of corporate issues, and devising strategies and other guidelines for all of the company's affairs.

At the time of the assessment, the Board had seven members overall: one executive member – the CEO of the ATHEX Group – and six non-executive members, four of whom were independent.

The Nomination and Compensation Committee rulebook defines that Committee's role and responsibilities in selecting and nominating board members. The Committee plans and coordinates the selection process of board members and ensures that there is an appropriate combination of knowledge, skills and experience. It also checks and verifies the definition of independence criteria, so that a board member can be qualified as independent, in accordance with the definition in CSDR and EMIR.

The current Board members have an advanced level of expertise in finance, economics, domestic and international law, communications, IT, risk management, and human resources.

Finally, the positions of CEO and Chairman of the Board are held by different persons.

**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.*

**Description**

The Internal Regulation clearly stipulates that the CSD must maintain and operate an organisational structure that ensures continuity of operations and an orderly execution of its activities, using appropriate systems, resources, policies and procedures. By establishing such an organisational structure, the company shall maintain a clear separation in the reporting lines between risk management on the one hand, and on all other functions on the other. The roles and responsibilities of all levels of management, the organisational structure of senior management, the relationships between senior management and the Board, and the procedures for hiring, appointing and assessing senior managers are described in the Internal Regulation.

According to the Internal Regulation, the senior managers have at least the following responsibilities:

- Ensuring that the company's activities are aligned with the objectives and strategy of the company as determined by the Board;



- Designing the company's operations, compliance and internal controls with the participation of the relevant departments;
- Designing and establishing operating procedures and internal controls that promote the company's goals;
- Submitting internal control processes to regular reviews and regular monitoring.

As for all other managers, the Internal Regulation stipulates that they must ensure the proper and smooth execution of work within the limits of the powers delegated to them by the company, and to guide subordinate staff for the timely, complete and accurate fulfilment of their duties. Moreover, they must ensure that their subordinates are informed immediately of the announcements and decisions of the Administration relating to the execution of their work and to provide them with any information, clarification and information on the issues handled.

The risk strategy and the risk appetite are set by the Board of Directors, while the objectives are set by the CEO and the head of each department taking into account the direction of the Board. The performance of the management team is assessed annually and is based on financial results, systems uptime, KPIs, qualitative assessments, and the effectiveness in managing risks.

The Human Resources department has undertaken the project of reviewing all job descriptions and describing ideal skills for each one. The job descriptions detail the required and desired knowledge, experience and expertise, as well as professional qualifications, and technical and soft skills. The hiring process includes technical tests, language tests, and interviews.

Targets are set for management at the start of the year. The goals are set at an individual level but may include collective departmental performance depending on the management level (e.g., for C-suite managers). There is an end of year appraisal that includes both a quantitative and qualitative assessment against goals and targets.

The members of the current management team have an advanced level of expertise in finance, law, IT systems, communications, risk management, HR, and economics.

Dismissal of management is in accordance with Greek labour law and the company's remuneration policy, in compliance with collective labor agreements, and in adherence to provisions in individual contracts.

**KEY CONSIDERATION 6:**

*The board should establish a clear, documented risk-management framework that includes the FMI's risk-tolerance policy, assigns responsibilities and accountability for risk decisions, and addresses decision making in crises and emergencies.*

*Governance arrangements should ensure that the risk-management and internal control functions have sufficient authority, independence, resources, and access to the board.*

## Description

ATHEX group has a documented risk management framework. The framework is defined at group level but applies to all subsidiaries, including ATHEXCSD. The framework defines the risk tolerance at a group level and analyses the risk identification, assessment, mitigation and monitoring process. In the risk framework, a 3-line of defence model is outlined, and the concept of risk ownership is established. A governance model has been defined in the framework with clear responsibilities assigned to the Board, the Board Committees, business executives and C-suite managers, as well as the internal auditor. Four main areas of risk have been identified and ATHEXCSD has developed a separate risk framework policy for each one, where it goes into more detail about risk tolerance and management of specific risks, and provides scenario analysis.

ATHEXCSD has established a risk committee at ATHEXCSD board level comprising three risk committee members that are non-executive members, at least one of whom should be independent. The CSD has established a separate Risk Committee Policy document that details the composition, role and responsibilities of the committee. The Risk Committee is responsible for submitting the Risk Management Framework to the Board for approval. An audit committee also exists at ATHEXCSD board level. All three members of the audit committee are non-executive members and the majority of them should be independent. The Audit Committee is responsible for assessing the quality and integrity of the internal and external audits. The Internal Audit is an independent function assigned with the task of evaluating the risk and assessing the processes and procedures of the CSD's operations. The internal audit reports directly to the Board of Directors and to the Audit Committee.

In order to ensure separation between the committees, the chairperson of each committee and the majority of their members are different.

### *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.*

## Description

ATHEXCSD's Board considers members' views when designing its rules. Following the implementation of CSDR, ATHEXCSD put in place a User Committee where a cross-section of participants is represented. The User Committee advises the Board on any arrangement and topic that concern its members. There is also a Rulebook Amendment Committee comprising ATHEXCSD managers, board members of ATHEXCCP, ATHEXCSD board members, members representing the Union of Listed Companies, members from the Association of Members of the Athens Exchanges, members from the Hellenic Fund & Asset Management Association and members from the Hellenic Bank Association. The Committee can make non-binding recommendations to the Board of ATHEXCSD about amendments to the text of the Rulebook.

In addition, ATHEXCSD's investment strategy takes into account all stakeholders' interests.

ATHEXCSD has open communication channels with participants by offering a dedicated communication platform, JIRA, for use by members. Participants can use the platform to open queries about any issue they may experience or to ask any question they may have. Response is prompt and resolution is timely. The ATHEX members support department is in communication with members and sends notifications about decisions or operational issues to all participants via emails. Finally, ATHEXCSD conducts participant and user surveys to gather participants' views.

The CSD discloses its major decisions to participants, shareholders and the general public during its general meeting (annual or extraordinary), via newsletter or emails, in its website, or through the local media. Finally, changes to the rulebook and the associated resolutions are published upon any change by the board. All documentation is provided in both in English and Greek.

## 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.*

### Principle Summary

ATHEXCSD has a structured risk management function in place, which reports directly into the risk committee and is set at ATHEX group level. A documented ATHEX group risk management framework in place along with two accompanying risk policies dedicated to Operational and Compliance risk, and Business and Financial risk. The RM framework contains clearly defined processes for the identification, measurement, monitoring and management of risks, and a clear structure for updating and reviewing the framework, policies, and accompanying controls.

Four key risk categories have been identified within the risk management framework, these being, Regulatory compliance risk, Operational risk, Business risk and Financial risk, although there is little focus on some depository related risks such as asset safety.

A three-line of defence approach is adopted for risk identification, utilising line managers (line 1), the risk and control function (line 2) and the audit function (line 3). Identified risks are measured using a 6-grade evaluation scale based on both quantitative and qualitative considerations, with KRIs being put in place using various metrics and risk tolerances. The ongoing monitoring of risk and control performance is conducted manually on excel spreadsheets, with KRI related metrics being primarily obtained manually.

Third-party risk monitoring is conducted primarily through annual questionnaires and reviews of documentation, but these focus largely on compliance and could be enhanced to have more of a risk emphasis. Negative incentives are in place in the way of penalties, but no positive incentive schemes currently exist.

ATHEXCSD has identified various scenarios that could prevent it from being able to provide services as a going concern, as part of a detailed recovery and resolution plan that is reviewed annually by the board.

*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.*

## **Description**

ATHEX Group has a dedicated risk management function in place, consisting of five members, including one member dedicated to ATHEXCSD. A documented Risk Management Framework is in place at group level, along with a Business Financial Risk Management Policy and an Operational and Compliance Risk Policy. Each document is updated and reviewed by the risk management department and approved by the board risk committee and the Board. Within the risk management framework, four risk categories have been identified, these being:

- Regulatory compliance risk;
- Operational risk;
- Business risk;
- Financial risk

Within these 4 risk categories, ATHEXGroup has identified additional sub-risks. ATHEXGroup has clear procedures and lines of responsibility to identify, measure, monitor and manage risks borne by the entity. The following '3 lines of defence' approach is in place to identify risk within the entity:

1. Line managers
2. Risk and compliance function
3. Audit function

Departmental line managers (risk owners) are initially responsible for the identification of risks, and the implementation of controls within their own areas. Each internal department is required to undertake an annual risk self-assessment. Areas defined as requiring high levels of expertise such as Information Security, physical security and business continuity planning are assigned additional risk responsibility by the risk management department, and report directly into executive management. These functions have been classified as the 1.5th line of defence within the RM framework.

As part of the second line of defence, risk management also have a responsibility to identify risks, and work closely with the risk owners to evaluate each risk and implement the necessary controls.

The audit function (third line of defence) performs audit engagements on the basis of an Annual Audit Plan based on a Risk Assessment. All operational processes and procedures are reviewed at least every 2-years, with most being conducted on an annual basis. The audit results and findings are agreed with management upon completion of the audits and related reports are drafted and signed off. Reports are sent to the Audit committee and the Board of Directors on a quarterly basis.

All findings and agreed corrective actions are documented in an automated audit system, detailing who is responsible, risk impact and a completion date. Quarterly progress reports are provided to the audit committee and the BoD.

An external audit is carried out annually, which provides an independent risk assessment in support of the internal audit function, however, the external audit currently only covers IT so is limited in scope. At the time of the review, the risk management function and the audit function worked independently of each other and set their own plans, however, a more collaborative approach between the two functions had been approved by the audit committee but was yet to be implemented.

Identified risks are evaluated using a 6-grade scale based upon the likelihood of the risk causing an issue and the expected impact of any issue should it occur. The expected impacts are based on quantitative (financial) criteria, as well as the following four qualitative criteria and include both direct and indirect scenarios:

- Service level to customer;
- Reputation;
- Legal compliance;
- Interruption of service.

Identified risks are managed through the use of KRIs, which are established in accordance with pre-determined risk appetites. ATHEX conducts an enterprise risk assessment on each of the identified risks within each of the four risk categories as mentioned above, with the inherent risk and residual risk levels being assigned on a low, medium, or high basis for each sub-risk category. This is used to determine the KRIs and their corresponding monitoring frequency. Risk monitoring against these KRIs is carried out manually through the use of an excel KRI summary table, whereby the risk department obtains and logs the KRIs manually on an ongoing basis. This lack of automation of the process means that not all metrics are obtained within the desired frequency. The KRI summary table also includes for each KRI:

- The review frequency;
- The responsible individual;
- The accountable individual;

- Current status.

Departmental line managers are primarily responsible for the implementation of risk controls, with each control being reviewed and signed off by the risk officer. A sample of risk controls are also checked and reviewed by internal audit as part of the annual audit programme. A control registry is also held on an excel spreadsheet, with each control assigned a code, linking it to the corresponding risk category and KRI, although, the listed controls are very high level and unclear on the exact nature of the control. A high proportion of controls are automated and are built into the ATHEXCSD systems and processes.

A documented incident reporting process is in place, whereby any risk event is logged by the relevant department. This system is in place for materialised incidents, near misses and observations, with each incident being reviewed by the departmental head and the risk team who will conduct a root cause analysis, identify, and evaluate the risks and produce recommendations.

**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.*

### **Description**

ATHEXCSD has a dedicated disclosure section on its website, where it provides information publicly in accordance with CSDR information disclosure requirements. This includes:

- Settlement fails data
- Governance arrangements of the CSD and user committee
- Gender representation
- Ownership of the CSD
- Prices and fees
- Levels of protection and costs associated with different levels of segregation
- Finality of securities transfer
- Information regarding the risks associated with services
- Default rules and procedures

- CSD links

As a requirement of article 34, paragraph 5 of CSDR, a CSD shall disclose to all clients, information that allows them to assess the risks associated with the services, with the website referring the reader to the CSD rulebook and its 21 resolutions. This risk information is explicitly detailed in certain resolutions, such as in section 3 of the “Disclosure of Protection and Segregation levels”, while other resolutions, and the rulebook, provide references to the related EU regulation, which details the risk. However, in general, the risk information is not explicitly stipulated in these documents.

Before any changes are initiated to processes/systems etc, ATHEXCSD will conduct consultation sessions and receive feedback from participants, as well as providing testing and training, to ensure readiness. The member support team also conducts an annual participant questionnaire, although the focus is more on compliance rather than obtaining risk information.

ATHEXCSD provides negative incentives in terms of penalties for settlement fails but does not offer any positive incentives to participants for sound risk management standards.

**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.*

### Description

ATHEXCSD has identified some high-level risks that it bears from and poses to third parties, however, these are not covered specifically within the ATHEXCSD risk framework. Similarly, only a minor number of KRIs specifically dedicated to third-party risk have been identified and are being monitored, which relate to risk assessments on third-party providers, third-party contractual delays and risk reviews of outsourced arrangements. As ATHEXCSD does not outsource any technology or process functions, applicable third-party risk is limited to the CSD’s participants and linked FMIs.

An initial risk assessment, followed by an annual review, is conducted on all CSD members in line with CSDR requirements. As part of this, ATHEXCSD reviews governance of risk arrangements and cyber security standards (amongst other compliance related areas) as part of the assessment. Information is gathered through questionnaires issued by member support. Pre-determined, documented assessment metrics do not appear to be in place, with the parameters being set by the member support department. Risk management review the responses for adherence. An



annual questionnaire is issued to participants, for compliance against the CSD rulebook and BoD Resolutions. Participants are required to provide supporting documentation to justify their levels of compliance.

Participant feedback can also be provided via the ATHEXCSD service desk, which is managed by member support, who send a quarterly report to the risk committee of member queries, issues and feedback received through the platform.

As part of the ATHEXCSD investment policy, ATHEXCSD assets are held with the four major banks in Greece in cash only and within pre-determined concentration limits. However, no further risk assessment is done on these entities.

A third-party security policy is in place, clarifying the terms and conditions of third-party connectivity with ATHEXCSD. Under the policy, a risk assessment is conducted on each provider based on an initial security and privacy questionnaire, plus an annual review and a criticality assessment based on access levels and the nature of the entities' functionality. Third parties are only able to access ATHEXCSD systems through a VPN, with assigned usernames and passwords.

**KEY CONSIDERATION 4:**

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

**Description**

ATHEXCSD has a detailed, documented recovery and resolution plan in place, which is reviewed and approved annually by the financial management unit, the risk management unit, the CFO, Chief Post-Trading and International Business Development Officer, CRO, CEO and finally the Board of Directors. The plan clearly details the role of all individuals and departments in relation to the review and upkeep of the plan. In addition, the following details, amongst others, are included within the R&R plan:

- Legal Framework behind the plan
- The identification of key business areas
- The identification of risks
- The identification of multiple scenarios, which could result in a recovery situation, along with any assumptions made.

- Analysis of each scenario including projected impacts
- Recovery measures, which have been identified under the following areas:
  - Capital adequacy
  - Liquidity
  - Profitability
  - Asset quality
  - Other considerations (insurance or infrastructure purchase)
  - Systemic recovery
  - Idiosyncratic recovery
- Recovery indicators, including pre-determined early warning thresholds and limit thresholds.
- Assessment of the legal enforceability of the plan
- Recovery plan communication framework and communication plan

Scenario preparation is conducted in accordance with EU regulation 390/2017, with a five-step methodology in place as follows:

Step 1: Determination of the financial starting point.

Step 2: Development of adverse scenarios that could occur and estimation of monetary results in the financial statements.

Step 3: Quantifying the relevant adjustments and projected future financial position.

Step 4: The indicators of the affected financial years are measured based on the projected financial statements position and performance compared to early warning signs and limits.

Step 5: If limits are breached, the Company implements recovery measures to restore its financial position and performance.

From a financial perspective, ATHEXCSD tests its capital adequacy on a quarterly basis and is required to provide annual reporting of capital positions for CSDR purposes. In addition, liquidity ratios are monitored on a quarterly basis, and liquidity levels are part of overall financial stress testing as part of the recovery and resolution plan, but dedicated liquid net asset stress testing does not appear to be carried out. Detailed financial KRIs have been identified and are reviewed on a quarterly basis.

The plan is also shared with and reviewed by the HCMC on an annual basis.

The resolution plan is a less detailed timeline of resolution events commencing with the initiation of resolution proceedings following the failure of recovery plans, until full liquidation of the company, with the aim of the whole process being approximately 9 months in total. The resolution plan has accounted for the full process of a CSD being unable to continue as a going concern but does not detail how the market would continue to function in the absence of the CSD, although in reality this would need to be developed in conjunction with market regulators, other FMIs and, if possible, major market participants.

On a more short-term basis, ATHEXCSD has detailed and documented disaster recovery and business continuity plans in place, which are tested and reviewed on an annual basis.

## 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.*

Principle 4 does not apply to ATHEXCSD

## 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.*

Principle 5 does not apply to ATHEXCSD.

## 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.*

Principle 6 does not apply to ATHEXCSD.

## 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.*

Principle 7 does not apply to ATHEXCSD.

## 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.*

## Principle Summary

Finality is defined in the CSD's rulebook and takes place in real-time upon settlement. Once securities and funds settlement have been completed, settlement is final in the CSD's system, although the CSD rules allow finality until the end of the settlement date.

*KEY CONSIDERATION 1:*

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

## **Description**

Irrevocability of settlement is clearly defined in ATHEXCSD's rulebook. The CSD performs settlement and ensures irrevocability of settlement orders in accordance with law no. 2789/2000, which transposed European Directive 98/26/EC on settlement finality in payment and securities settlement systems. In both the case of multilateral and bilateral settlement, transfer orders are irrevocable from the moment the instructions have entered ATHEXCSD's system (bilateral) or the investor account has been declared (multilateral), and assets have been blocked for settlement. Specifically, in the case of on exchange transactions that are originated by a System Operator, orders are irrevocable at the moment the order is agreed and booked in the exchange.

According to the procedures of the system for the execution of batches, settlement is final when securities are credited to the account of the investor. This is when the transfer of ownership takes place. Cash finality takes place when a cash is credited or debited. The settlement of a payment, transfer instruction or other obligation becomes final within the settlement system in real time (i.e. at the time of settlement).

Nevertheless, despite irrevocability of transfer orders is very strictly and precisely defined in the CSDs' rulebook, settlement finality is more broadly defined, allowing for finality to be achieved either in real time, or intraday, or at the latest by the end of the settlement date.

The FMI discloses information on finality to the public, participants and the regulator by making its rulebook and accompanying resolutions available on its website, both in Greek and English. The relevant laws are mentioned in the rulebook but are not provided on the CSD's website.

Regarding the FMI links that ATHEXCSD operates, namely the links with BOGS (Greece), CBF (Germany) and SIX SIS (Switzerland), the linked FMIs are based in jurisdictions where finality is recognised in line with the EU Finality Directive 98/26/EC. ATHEXCSD has acquired legal opinions that address the finality of settlement in the jurisdictions the FMIs are based.

*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.*

## Description

ATHEXCSD has adopted multiple batch processing during the settlement day. There are eight batches for securities settlement during the business day and an additional two batches at the end of day for pending or failing transactions. Most batches are executed evenly throughout the day every hour. Transactions can be recycled to the following batch if securities or cash are not available in time. Finality occurs for cash at the end of each batch, and for securities during the transfer of securities within the batch. Under no circumstances is finality achieved later than the end of the settlement date. Recycled securities also become final when settlement takes place. The rulebook describes in detail the settlement process and the moments of entry, irrevocability and final settlement.

Participants receive final settlement confirmations either via ATHEXCSD's proprietary system or through the SWIFT messaging system. Recycled securities also become final when settlement takes place.

### *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.*

## Description

On-exchange transactions become irrevocable at the moment the trade is agreed in the exchange and the feed from the stock exchange is transferred to the CSD system. All other transactions are irrevocable upon their details entering the CSD's system. The Greek law follows the European Settlement Finality Directive in that respect. ATHEXCSD does not accept any participant's request to lift the irrevocability of a transaction during the settlement day.

Unsettled obligations are moved to the next available batch within the same settlement day. OTC instructions that have not settled by the end of their intended settlement date, are recycled for 20 days if unmatched, and 60 days if matched. Participants can unilaterally cancel only unmatched instructions and the rulebook stipulates that matched instructions cannot be unilaterally cancelled.

The rulebook foresees the cancellation of unsettled OTC instructions by the system only in case of pending corporate actions by the record date of the said corporate action at the latest. The participants are aware of the possibility of the cancellation and are considered to accept it as part of entering and matching instructions in the DSS.

## Principle 9: Money Settlement

*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.*

### Principle Summary

ATHEXCSD conducts money settlements primarily in central bank money. Settlement in commercial bank money is performed only for very limited volumes in foreign securities, at a bank with low credit rating at the time of the assessment.

#### *KEY CONSIDERATION 1:*

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

### Description

The cash leg of the settlement process takes place in central bank funds and commercial bank funds, although, as it can be seen in Table 1 below, the split between the different methods differs significantly, with central bank money settlement being the predominant method of money settlement. ATHEXCSD has a direct link to the Bank of Greece and uses the TARGET payment system of the European Central Bank for money settlement as an Issuer CSD. Commercial bank money is only used for foreign currencies where ATHEXCSD acts as an Investor CSD.

Table 1: Cash leg settlement

Type of currency	Central bank funds	Commercial bank funds	Internal money settlement
EUR	99.8%	0.0%	
USD		0.2%	
GBP		0.0%	
CHF		0.0%	

**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.*

**Description**

For the settlement of non-euro X-net transactions in several foreign markets, and specifically for foreign security settlement via SIX SIS, Alpha Bank provides the cash settlement link with ATHEXCSD. The CSD relies on information from the Bank of Greece, HCMC and from credit rating agencies to assess the liquidity and credit risks posed by Alpha Bank. The CSD does not perform its own liquidity and credit risk assessment, although it monitors Alpha Bank's financial position. ATHEXCSD has a long-standing relationship with Alpha Bank, which was the commercial bank used for settlement before TARGET was used to settle cash. Alpha Bank is classified as one of the four systemic banks in Greece and has stricter requirements. However, at the time of the assessment, its credit rating according to the credit rating agencies was below investment grade (around BB- or lower). The CSD does not have arrangements with an alternative bank for settlement in foreign currencies.



**KEY CONSIDERATION 3:**

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

**Description**

ATHEXCSD uses one bank, Alpha Bank, to settle cash in commercial money and establishes and monitors adherence to certain criteria for its commercial settlement bank including checking that the bank is regulated by the authorities. The criteria the CSD uses to select its settlement bank includes regulation and supervision.

The table below shows the elements used to monitor the settlement banks' adherence to the CSD criteria.

Table 2: Alpha Bank's adherence to CSD criteria

	<b>Reg. submission of docs.</b>	<b>Onsite inspections</b>	<b>Audit report</b>	<b>Market data</b>	<b>Third party reports</b>	<b>N/A</b>
Regulation				X	X	
Supervision				X	X	
Creditworthiness				X	X	
Capitalisation						
Access to liquidity						
Operational reliability						

ATHEXCSD does not monitor its settlement bank's compliance of the criteria. However as Alpha Bank uses the money same day, there is always a zero balance at the end of day.

Although there is a system failure back up plan, there is no back up settlement bank in case Alpha Bank would default.

*KEY CONSIDERATION 4:*

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

### **Description**

The FMI does not conduct money settlement in 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.*

### **Description**

Alpha Bank holds around 200 cash accounts in different currencies for 40 Participants (including about 17 X-net operators) and for ATHEXCSD. Funds from operators' accounts to ATHEXCSD's settlement account, and vice versa, are transferred via secure online system-to-system interface or web banking tool from 9.00am to 6.00pm during real-time clearing cycles. Balances are updated instantly.

ATHEXCSD's legal agreement with Alpha Bank states that cash transfers are final when effected, although exact timings are not stipulated in the contract. Nevertheless, fund transfers are executed with same-day value and funds received are transferable in real-time.

## Principle 10: Physical Securities

*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.*

Principle 10 does not apply to ATHEXCSD

## 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.*

### Principle Summary

ATHEXCSD has numerous rules and procedures in place to address the risks associated with safekeeping of securities. These include clear legal requirements for the segregation of securities, along with rules and regulations ensuring the rights of securities holders are protected. All securities are held in dematerialised form, mitigating against the risks associated with physical security holdings, and ATHEXCSD has built-in controls within its core system to prevent negative securities balances and to ensure transfers may only be conducted in accordance with valid instructions.

*KEY CONSIDERATION 1:*

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

## **Description**

The rights of securities issuers and holders are stipulated in articles 13 and 16 of Law number 4569 of 2018, which are further backed up by the provisions of the ATHEXCSD rulebook. Under this regulation, the registered beneficiary within the depository is considered as the shareholder under article 16. Article 13 details the rights in rem over moveable securities of both beneficial owner and omnibus accounts, as well as stating reconciliation requirements. Some clarity is lacking over the provisions governing omnibus accounts within the ATHEXCSD rulebook, specifically in relation to the naming conventions of associated accounts.

Participant assets must be fully segregated from client assets by law, for both beneficial owner and omnibus accounts. Various details and criteria are required upon account opening, including confirmation of the owner of the account (e.g., client or proprietary). The obligations of registered intermediaries, in relation to omnibus accounts are detailed in article 38 of CSDR. The HCMC has the right to view the underlying securities holder information of omnibus accounts under Law 4557/2018 “The AML Law”. Under the AML Law, any and all information requested by the regulator must be provided.

In accordance with resolution 21, in the event of a participant insolvency, ATHEXCSD opens a special temporary transfer account to hold the shares of beneficiaries or registered intermediaries who held accounts with the defaulting participant. ATHEXCSD notifies participants, or, if necessary, the beneficiaries of the need to transfer shares from the special account to another participant, and if this transfer request is not received within three months, then ATHEXCSD will conduct a forced sale of the securities, with the proceeds being transferred to a consignment deposits and loans fund (CDLF). Under this approach, the rights of securities holders are not fully protected, in the event of their participant defaulting, and although they are given the opportunity to transfer securities, they can still lose their principal if action is not taken within the designated three months.

ATHEXCSD provides End of Day SWIFT messages to participants showing securities balances for reconciliation purposes, as well as providing participants with direct access to the CSD system to be able to view account positions and transaction statuses in real-time, on an intra-day basis. CSD participants are required to conduct reconciliations

internally against the CSD's positions and advise of any breaks that are unaccounted for. ATHEXCSD also conducts a full daily issuer balance reconciliation.

Controls are in place to prevent the unauthorised creation or deletion of securities, which includes a built-in function whereby new securities cannot be created (e.g., in the event of a corporate action) unless valid instructions are uploaded into the system. In addition, debits and credits of securities can only be triggered by ATHEXCSD and must be in accordance with valid client instructions, with system-based functionality in place to ensure this is the case. All processes are accompanied by a built-in four-eyes check requirement to reduce the risk of human error.

As part of the internal audit function, all procedures and controls are checked at least every 2 years, with most checked on an annual basis, however, a check on transactions and balances is not conducted. Additionally, a group level external evaluation of the control system is conducted in accordance with the requirements of Law 47/06 of July 2021. The evaluation covers internal control systems, processes, risk management and regulatory compliance.

**KEY CONSIDERATION 2:**

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

**Description**

ATHEXCSD's system automatically prevents settlement if there are insufficient securities in the related account, and as such, it is impossible for a participant's account to have a negative securities balance.

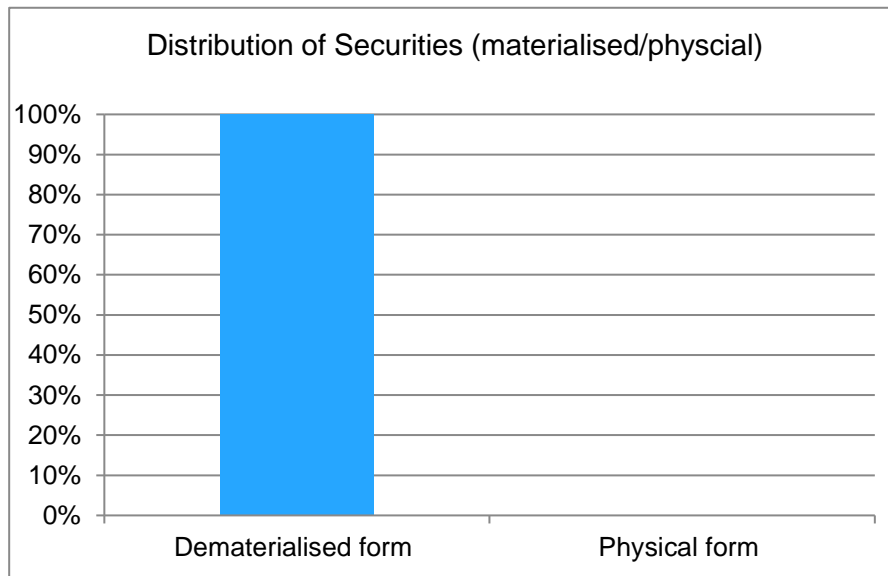
**KEY CONSIDERATION 3:**

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

**Description**

All securities held by ATHEXCSD are held in dematerialised form.

Chart 1: Distribution of Securities (materialised/physical)



**KEY CONSIDERATION 4:**

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

**Description**

ATHEXCSD's rulebook and procedures include provisions to protect assets against custody risk in case of the following events: CSD's negligence, misuse of assets, fraud, poor administration, and inadequate recordkeeping. Assurance that these rules and procedures are also consistent with the legal framework is provided through the Rulebook being legally enforceable. ATHEXCSD has numerous automated controls to prevent against custody risk including automated requirements for securities movements to be conducted only in accordance with valid client instructions, sound reconciliation procedures and four-eye checks on all areas.

ATHEXCSD has insurance policies that cover misappropriation, destruction, and theft of securities. The ATHEXCSD rulebook also states that the CSD shall only accept any contractual or non-contractual liability for wilful misconduct or gross negligence.

**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.*

**Description**

As mentioned in KC 1, both legislation and the rules of the CSD state that the CSD's own assets should be segregated from the participants' assets. ATHEXCSD also supports the operational segregation of securities belonging to participants' customers from the participants' book and has procedures and controls in place to facilitate the transfer from customers' accounts to another participant, only in accordance with valid customer instructions.

**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.*

**Description**

ATHEXCSD does not provide any service where it acts as principal such as securities lending, banking services or collateral management.

## Principle 12: Exchange-of-value Settlement System

*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.*

### Principle Summary

ATHEXCSD ensures that principal risk is eliminated as the final settlement of one obligation is linked to the final settlement of the linked obligation.

**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.*

**Description**

ATHEXCSD is responsible of the settlement of securities in the market and uses interfaced BIS 1 and BIS model 2 to settle transactions; BIS Model 1 is used for the settlement of OTC transactions and block trades, while BIS Model 2 is used for the settlement of stock exchange transactions. ATHEXCSD settles on a DVP basis the following assets: equities and fixed income (including money markets).

The CSD has procedures in place to link the final settlement of one obligation to the final settlement of the other. DVP settlement is clearly defined in the ATHEXCSD's rulebook, specifically in Part 5, section 3.2.1, where the DVP process is described in detail. In the rulebook it is stipulated that the transfer of cash and securities happens simultaneously upon fulfilment of settlement obligations and that final settlement of one obligation is linked to the final settlement of the other. The DSS is set up to operate in accordance with the process described in the rulebook. The system blocks securities and cash at the start of the settlement batch; during the batch, securities are transferred between accounts while virtual cash transfers are recorded in the ledger and the actual funds are transferred at the end of the batch. For the duration of the batch, blocked securities and cash cannot be removed from the settlement process.

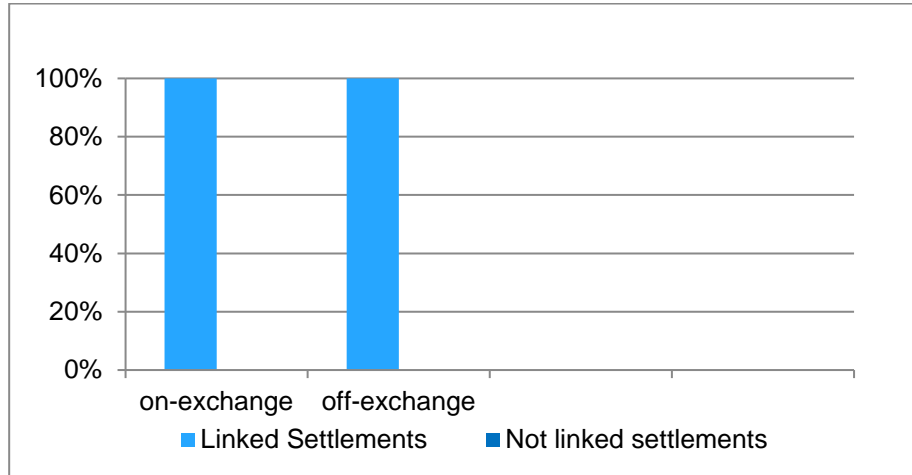
The table below shows the value of trades conducted on a DVP, DVD or PVP basis. All settlement obligations are linked; not-linked settlements are not performed in the DSS.

Table 3: Value of trades conducted on a DVP basis

	<b>Linked settlements (EUR)</b>	<b>Not linked settlements (EUR)</b>
<b>On-exchange</b>	37,841,820,379	
<b>Off-exchange</b>	27,026,708,507	



Chart 2: Distribution of linked and non-linked settlement



Settlement happens in multiple batches during the settlement day. At the start of the batch, cash positions in the TARGET sub-accounts are locked and securities positions are blocked. The batch is initiated manually; securities transfers between accounts happens automatically and continuously during the batch, while the system makes virtual entries in the cash sub-accounts. Files which include cash transfers are sent to TARGET manually. The batch is terminated automatically by DSS when DSS receives the confirmation of fund transfers.

The table below has the value of settled trades in local currency units, disaggregated by asset class. These are average daily value for 2022. There is no net settlement of securities given that they operate a beneficiary owner account model and they transfer the securities directly to/from the investor account.

Table 4: Value of settled trades in local currency units

	<b>Net basis</b>	<b>Gross basis</b>
<b>Equities</b>	30,640,686,258	32,515,905,770
<b>Fixed income</b>	1,045,649,066	666,287,791

The finality of settlement of linked obligations is simultaneous, as stipulated in the rulebook and as executed in the system. The length of time between the blocking of assets and final settlement of both obligations is between 15 minutes and 45 minutes, depending on the length of the settlement batch.

Blocked assets are protected from a claim by a third party by law. According to law no. 4569/2018, “seizure imposed on securities or funds held in a central securities depository in an account under the name of a beneficiary, for which clearing is pending pursuant to Articles 72 et seq. of Law No. 3606/2007 or settlement on the basis of relevant transfer orders pursuant to Law No. 3606/2007. 2789/2000 (A' 21), shall be deemed to be levied on the net proceeds of the settlement made after deduction of any fees and charges provided for.”

Therefore, assets blocked for settlement purposes are protected from third party claims as the imposition of any encumbrance or seizure on them will occur only after the settlement process has been finalised and therefore the settlement will not be affected or threatened to be reversed by such events.

## 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.*

### Principle Summary

Provisions for the default of a system member are included in national law, in CSDR, in the ATHEXCSD Rulebook, and in the internal rules of the CSD. According to the law, the system operator must immediately limit the access of the defaulting member and notify the HCMC. The ATHEXCSD Rulebook is mostly concerned with ensuring the safety of investors' assets and the CSD's internal procedures cover cases of both voluntary and involuntary suspensions.

The CSD has made publicly available guidelines for default procedures in resolution 21 of its rulebook. The resolution includes the measures taken in the event of a participation default, obligations of a defaulting participant and details on reviews of the participant default procedures. ATHEXCSD reviews its default procedures at least annually which includes simulation scenarios of a participant default. The CSD also conducts annual audits on its default procedures, of which the results are reported to the Board of Directors, the risk committee, and both of its regulators.

*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.*

## Description

ATHEXCSD identifies immediate implications for the entity from the default of a participant. Once a default has been verified, ATHEXCSD is required to inform the HCMC and Bank of Greece immediately of any participant defaults, alongside information regarding the type of participant, the volume and value of the defaulting trade and also the type of transactions and securities that are being traded. The CSD must also notify the system operator affected by the relevant default of the participant default or settlement failure.

The first-level provisions for the default of a member are stipulated in article 79 of law N.3606/2007, article 20, 21 and 30 of law N.4569/2018, article 41 of regulation (EU) N.909/2014, article 1 of law N.2789/200. The law grants the system operator, i.e. the entity who is authorised by the HCMC to provide clearing/CCP or settlement services, specific rights in dealing with a participant's default, including the right to forfeit any collateral or guarantees that have been provided by the member, as well as the right to assign the accounts of the defaulting member to other participants. The law stipulates that the defaulting member is not allowed to continue operations and the system operator must immediately notify the HCMC about the default and the remedial measures that it has taken. As ATHEXCSD is the designated DSS operator, it is bound by the provisions of the law.

The second level provisions for the default of a member appear in the ATHEXCSD Rulebook. Specifically, article 1.6 of part 1, section iii, regarding the opening of a special account in the event of a participant default or insolvency. ATHEXCSD shall immediately suspend the participant's status and access and open a Special Temporary Transfer Account in the Shares or beneficiaries or Registered Intermediaries through which the defaulting participant maintained securities accounts. ATHEXCSD then transfers the securities of the defaulting participants' securities account. If the securities are not transferred back to the securities account within a three-month period by the participant, with enough liquidity to complete the trade, the securities shall be forcibly sold in compliance with article 30 of law 4569/2018. The three-month period will be increased to five months, if the securities in the special account are blocked due to pledge or other encumbrance.

The third-level provisions for the default of a member are described in resolution 21. This resolution includes a description of its process for the transfer of securities to the special temporary transfer accounts, which clearly explains the procedures used for this transfer, and also the use of a forced sale if the securities are not transferred out of the

special account to a securities account within a 3-month period of the original transfer (unless they are blocked due to pledge or other encumbrance). The CSD does not have a documented internal procedure on how to validate notices that it receives from the HCMC.

**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.*

**Description**

ATHEXCSD has an internal document that specifies the lines of responsibility within the CSD's management regarding default events. The document sets the responsibilities of each department and the minutes of the company establish the signatory representatives of the company and whether they can sign on their own or jointly with others.

The Bank of Greece has been designated under the Settlement Finality Directive as the national authority responsible for advising the CSD of any insolvency proceedings that have been opened for a participant. The HCMC or other competent authority can also advise the CSD, as stated in resolution 21. There is an obligation for the CSD to communicate the details of a default event to other stakeholders, ATHEXCSD are obliged to immediately advise the HCMC of any participant default, as stipulated in article 2 of resolution 21. The communication channels used would be emails and the ATHEX website.

**KEY CONSIDERATION 3:**

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

**Description**

ATHEXCSD has publicly available guidelines for default procedures included in its rulebook and resolution 21, which are both available via its website. The CSD does not publish any marketing material on the subject either for participants or investors. Any extra information can be provided via ATHEXCSD's member support team, either through email or through the online ticketing system.

Furthermore, the first- and second-level provisions for the default of a member, as stipulated in law N.3606/2007 and the ATHEXCSD Rulebook, respectively and described in Key Consideration 1, are publicly available and can be found on ATHEXCSD's website.

**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.*

**Description**

ATHEXCSD reviews its terms and procedures for the management of a participant default at least annually, and on an ad hoc basis, when changes arise to the operations of ATHEXCSD. The CSD also organises simulation tests for a participant default on an at least annual basis, which includes the participation of a representative sample of participants, system operators, trading venue operators, any linked CSDs and other necessary parties.

Prior to any reviews or simulation tests, ATHEXCSD will specify the parameters of the test or scenario, including the type of participant, size and volume of the settlement, participants in separate countries and time zones, different market infrastructures and participants holding different types of accounts. These parameters are then submitted to the HCMC prior to any review or simulation scenario. The simulation tests conducted also include an audit of communication procedures.

If the review or simulation find any shortcomings in the rules and procedures of ATHEXCSD on participant defaults, ATHEXCSD will make the appropriate changes and remediations. ATHEXCSD will inform market participants of any shortcomings and the remedial action taken to address them. The results of each review are sent to the ATHEXCSD board of directors, the risk committee, the HCMC and the bank of Greece, alongside any proposed changes to the rules and procedures on participant defaults. Summaries will be provided to participants of the results of the audits and any remedial action taken or changes to the rules and procedures.

**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.*

Principle 14 does not apply to ATHEXCSD.

## Principle 15: General Business Risks

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

### Principle Summary

ATHEX has identified business risk and financial risk as core risks within its risk management framework and have also implemented a Business and Financial risk management policy to compliment the framework. These documents contain clear and detailed approaches to the identification, measurement, monitoring and management of business risk, with various risk-based scenarios and KPIs having been identified. The framework and policies are set at ATHEX group level, however, and more direct CSD risk focus would be beneficial.

Strong capital adequacy measures are in place, which include quarterly monitoring of ratios and other KPIs, along with stress testing scenarios carried out on an annual basis. Liquidity and profitability requirements are also monitored through the use of ratios and other metrics, but stress testing in this area could be enhanced.

ATHEXCSD has all key insurance policies in place.

Based on the 2022 financial statements, ATHEXCSD currently has sufficient liquid net assets to cover approximately 31 months of operational expenses, with all reserves held in cash at four local banks in accordance with the ATHEXCSD investment policy.

ATHEXCSD has a detailed recovery and resolution plan in place that is reviewed annually by the board and contains various scenarios that could prevent ATHEXCSD being able to continue to operate as a going concern. However, there are currently no pre-agreed credit lines or agreements in place to increase equity should the need arise.

*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.*

## Description

Business risk and financial risk have been identified as two of the key risks impacting ATHEX Group as part of the ATHEX risk management framework. ATHEX adopts the CPMI-IOSCO PFMI definition of general business risk, which is “Any potential impairment of the FMI’s financial position (as a business concern) as a consequence of a decline in its revenues or an increase in its expenses, such that expenses exceed revenues and result in a loss that must be charged against capital”. Within the risk framework, the following specific business and financial risk categories have been identified and defined:

- Sales and Marketing
- Outsourcing and support partnerships with third parties
- Business development and resilience of business plans
- Communication and corporate image
- Environmental, Social and Governance (ESG)
- Accounting and financial reporting risks
- Credit risks and liquidity risks
- Invoicing and collection risks
- Tax risks
- Risks of investments and participation in third party companies

As detailed in principle 3, the risk framework has clearly defined criteria for the identification, evaluation, monitoring and management of risks, with clear lines of responsibility for each stage of the risk management process.

A dedicated business and financial risk management policy is also in place, to expand upon the Business and Financial risk information within the risk framework. This policy mirrors the Operational and Compliance risk management policy in terms of how individual risks are identified, assessed, and managed, with the following risk identification methods being utilised:

- Analysis of the main causes of risk events - Incident Root Cause Analysis
- Risk & Controls Self-Assessment (RCSA)
- Process Risk Analysis / Assessment
- Regulatory Provisions Risk Identification
- Application of special methodologies applied to specific risks, either internally in the organisation or after assignment to third parties.
- Information Security Risk Identification
- Business Continuity Risk Identification
- Risk studies and reports requested by the risk management unit.

From a financials perspective, ATHEX utilises capital ratios, liquidity ratios, profitability indicators and asset quality indicators with pre-determined tolerance limits set in accordance with the company risk appetite. Early warning levels are set for each ratio, which are based upon substantial ratio movements, in addition, adverse scenarios are utilised when establishing capital adequacy levels, which are reviewed on an annual basis. However, this does not appear to be the case for liquidity, profitability, or asset quality, where dedicated historical or scenario-based stress testing is not used when calculating required levels in these areas. Liquidity and profitability levels are included with some overall financial stress testing within the recovery and resolution plan, but enhanced, specific testing would be beneficial. Quarterly reporting is provided to the Board of directors on financial performance. Overall, the level of monitoring of financial positions is sufficient to ensure ATHEXCSD remains healthy and can identify any financial downturns in advance.

For the non-financial, business risks, some specific risks and KRIs have been identified, but very few, with little in the way of quantitative data to be able to assess performance against these risks on an ongoing basis.

Risk consequences have been identified for each KRI, but these are vague in nature (e.g. Financial loss, fines, reputational damage etc) and a lack of analysis of potential losses appears to have taken place.

Other mechanisms ATHEXCSD has in place to manage general business risk include the following insurance policies:

- Direct financial Loss – Professional Indemnity
  - Coverage = EUR 35 million
- Directors and Officers Liability (2 policies)
  - Coverage = EUR 10 million and EUR 40 million for the two policies
- Data Protection and Cyber Liability Coverage



- Property Insurance
- Electronic Equipment Insurance

In addition, ATHEXCSD can manage business risk through participant feedback, received either through annual questionnaires (although this focuses more on the participant than on ATHEXCSD) or ad-hoc communication via the service desk, e-mail, or meetings. A formal feedback process would help enhance business risk identification and management.

ATHEXGroup have engaged with an expert in marketing and communications to help with brand engagement, which is a good way of addressing potential issues in relation to reputational risk.

When undertaking large scale projects or developments, ATHEXCSD undertakes a two-level approach for risk monitoring, analysing risks against both company strategy and at operational level. A project management team is in place to assess the risks associated with each project. Business plans are set up for each project, which are sent to the executive committee for approval prior to the commencement of any project. Final approval will be provided by the Board, based on criteria established on a project-by-project basis. It was advised that going forward, ATHEXGroup plans to introduce a framework to standardise business planning with a full consistent step-by-step approach. Monthly feedback is provided to the Board committee and a quarterly deep dive review of all ongoing projects is carried out.

#### **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.*

#### **Description**

ATHEXCSD's net liquid reserves are segregated from any other fund. To determine the adequate size of its reserves, the ATHEXCSD uses scope and volume of its activities, and its recovery plan. However, the CSD was set-up with a large amount of cash at hand and has managed to keep large reserves in cash without the need to borrow further. Currently ATHEXCSD has EUR 29.83 million of cash (as of 31 December 2022), which is fully funded by equity (EUR 49.41 million as of 31 December 2022). In accordance with the investment policy, all ATHEXCSD financial resources are held in cash, meaning there is no risk of lengthy liquidation periods if required (on the assumption of full financial and operational health of the relevant custodian banks).

ATHEX conducts regular ratio analysis, as part of its KRI monitoring, with pre-determined early-warning levels identified for each ratio in accordance with the ATHEX risk framework. Presently the following liquidity, revenue, and financial resilience related KRIs are being monitored on a quarterly basis:

- Current ratio
- Growth in overdue receivables
- Quick ratio
- Operating cash flow ratio
- Receivables turnover ratio
- Number of events of incorrect billing
- Significant operational loss
- Tax fines
- Capital adequacy ratio
- Commercial real estate valuation change
- Quality of liquid assets

This type of monitoring is an important part of ensuring sufficient liquidity arrangements but should also be complimented by stress testing of liquid net assets using historical and / or hypothetical scenarios.

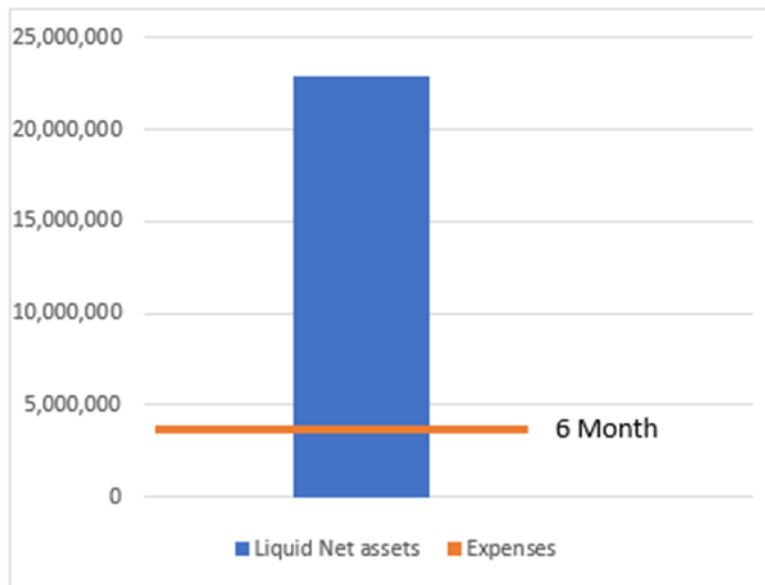
**KEY CONSIDERATION 3:**

*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.*

**Description**

As shown in the chart below, the FMI's liquid net assets sufficiently cover over six months of current operating expenses.

Chart 3: Coverage of Liquid Net Asset in Relation to Operational Expenses (Values in basic units of Euro)



Operating expenses for the year ending 31 December 2022 were EUR 8.79 million, i.e., EUR 4.39 million for 6 months. As of 31 December 2022, total liquid net assets were EUR 22.96 million, which comprised of EUR 29.83 million in cash and cash equivalents, less EUR 6.87 million in current liabilities. All cash and cash equivalents are fully funded by equity, which totalled EUR 49.41 million as of 31 December 2022. Overall, this means that ATHEXCSD has sufficient liquid net assets to cover 31 months of operational expenses, which is significantly higher than the recommended PFMI minimum level of 6 months.

In addition, ATHEX group has a formal recovery and resolution plan, prepared by the financial management unit and the risk management unit in accordance with CSDR requirements. The plan was initially reviewed by the CFO, Chief post-trading and international business development officer, the CRO and the CEO before receiving approval by the Board and final approval by the HCMC. The plan is reviewed on an annual basis or when significant changes occur to the legal / organisational structure, the business model, the financial field and risk sector.

Liquidity and profitability recovery indicators have been identified based upon current ratio and operational losses performance, with early warning levels (150% for current ratio) and final limit levels (100% for current ratio) in place. These indicators are monitored on a quarterly basis.

Systemic and idiosyncratic stress scenarios have been identified with detailed assumptions in each instance followed by estimated financial balances across a 3-year period using the stipulated assumptions. Recovery measures are detailed for all scenarios based on capital, liquidity and profitability indicators, and the anticipated levels of recovery.

Identified, liquidity-based recovery measures are:

- Bank Loans
- Loans from affiliates
- Change of credit policies
- Receiving advance payments
- Increasing service fees

It should be noted that ATHEXCSD currently has no pre-agreed credit lines or support measures in place and considering that a recovery scenario is likely to occur during times of financial stress across the entire market, obtaining loans without prior agreement may prove challenging. Additionally, negotiating quicker payments from counterparties or advance payments is a legitimate technique, but again, this cannot be guaranteed during times of financial stress. The only Liquidity measure that ATHEXCSD has full control over is the ability to increase fees at short notice.

Two further profitability measures have been identified, which are:

- Renegotiating / reducing costs
- Development of new services

As with liquidity, it is important for ATHEXCSD to have identified these possible measures but must also realise there are no certainties with either in a real-life scenario.

Legal backing and all organisational responsibilities are detailed within the R&R plan. In addition, the plan lists all identified risk categories from the risk management framework document, and their relevance to the plan in accordance with overall company risk strategy.

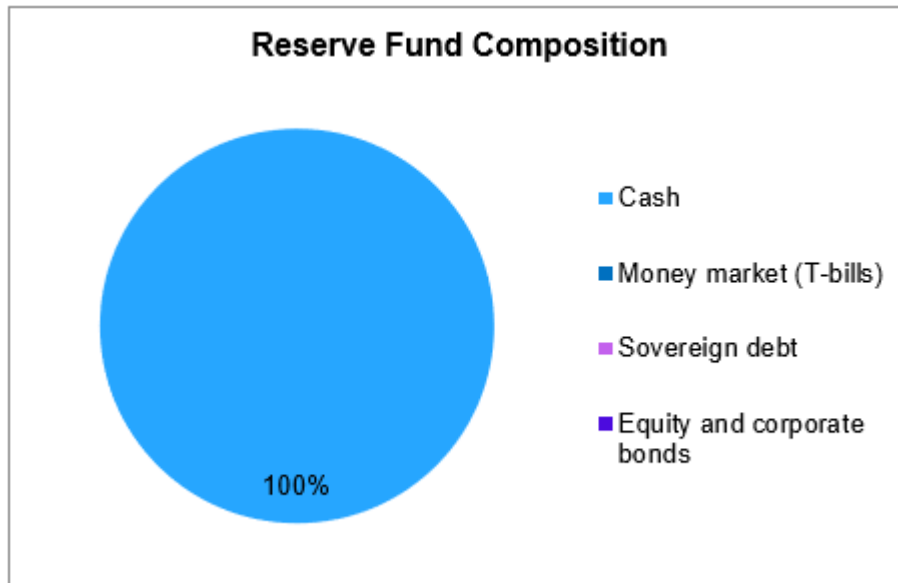
However, presently, ATHEXCSD is in a very strong position in terms of liquidity.

**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.*

**Description**

The composition of the FMI's reserve fund is as follows:



100% of ATHEXCSD reserve funds are held in cash, in Euros, at four commercial banks, meaning ATHEXCSD has immediate access to its assets when required. Assets are allocated according to the interest rates. These banks have tier 1 capital ratios higher than expected by BASEL III. A concentration limit of 30% of the total ATHEXCSD assets is in place per bank, to reduce concentration risk.

Senior management are responsible for the investment of ATHEXCSD's assets, with the Board of directors responsible for an annual review and approval of the investment policy.

**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.*

**Description**

ATHEXCSD has identified an increase in share capital as a recovery measure within its documented recovery and resolution plan. Within this measure, two approaches have been stipulated:

1. Receiving money from current shareholders
2. Finding new shareholders

Capital adequacy levels are monitored quarterly, with dedicated stress testing taking place. In addition, the impact on capital levels has been stipulated within all identified recovery scenarios, along with the expected outcomes, following the implementation of recovery measures set against early warning levels (<75% Equity / share capital) and final limits (<50% equity / share capital). Further annual reporting of capital adequacy for CSDR compliance purposes is required.

ATHEXCSD is 100% owned by ATHEX group and presently, does not have any agreements in place with its owners to raise capital if required. However, as part of the same group entity, it is extremely unlikely that ATHEX would allow ATHEXCSD to fail, and as such, an implicit agreement to provide help would be expected.

## Principle 16: Custody and Investment Risks

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

### Principle Summary

ATHEXCSD is one of 2 depositories in Greece, the other being the Bank of Greece. Securities are held in dematerialised form on its books on behalf of participants and investors for the domestic market. Foreign securities are held across two foreign CSDs (Clearstream and SIX SIS), which are well regulated FMIs, with high credit ratings and strong legal and operational frameworks. Annual reviews are conducted of these entities via questionnaires, with analysis of relevant documentation also performed. ATHEXCSD does not hold client cash, and therefore its custody risk exposure with regard to cash is limited to four custodian banks, who have been appointed to hold ATHEXCSD's proprietary assets.

ATHEXCSD has an investment policy in place, which stipulates all reserves must be held in cash, with a maximum concentration limit of 30% of all assets being held within any one bank. There is a strong legal backing covering access to assets, in accordance with national and EU law and the CSD rulebook. There is no risk analysis conducted as part of the process to select custodian banks with whom ATHEXCSD will hold its proprietary assets, or on an ongoing basis, aside from the annual review conducted as part of the banks' roles as ATHEXCSD participants.

#### *KEY CONSIDERATION 1:*

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

### Description

ATHEXCSD is one of the two depositories in Greece, the other one being the Bank of Greece. ATHEXCSD holds securities (equities, government bonds and T-bills) on its books on behalf of participants and investors for the domestic market in dematerialised form. Two foreign CSDs are used for the safekeeping of foreign securities:

- Clearstream Banking Frankfurt (CBF; Germany), for the settlement of German-issued securities.

- SIX SIS (Switzerland), for the settlement of international securities in the following markets: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK, USA, Australia, Hong-Kong, Japan, South Africa, Singapore, New Zealand.

ATHEXCSD uses SIX SIS both as an intermediary to other foreign CSDs, and as an Issuer CSD for Swiss securities.

Clearstream is required to be fully compliant with CSDR standards in terms of safekeeping standards, whereas SIX SIS, as a non-EU entity, are not required to comply with CSDR, but have aligned their national legislation and practices with CSDR.

An initial review of all linked FMIs is conducted, in accordance with CSDR, and followed up with an annual review carried out through the member support team via a questionnaire. Each year, ATHEXCSD will pinpoint the most critical areas for SIX SIS to focus on within their questionnaire. The critical focus decision is made by management on a case-by-case basis, with no official framework, or standardised annual requirements in place. ATHEXCSD use the CSDR framework as the basis for the identification and monitoring of risks with linked FMIs. As part of ATHEXCSD's annual review from the HCMC, they are also expected to show that a full assessment of linked entities has been carried out. As part of a third country, it was confirmed that additional criteria were included in the assessment of SIX SIS, which involved obtaining a legal opinion on various areas including account structures, insolvency practices and the legal implications of different segregation levels. The linked CSDs are required to provide copies of their financials as part of their annual reviews, but no detailed internal financial robustness checks are conducted.

In accordance with the ATHEXCSD investment policy, which is reviewed every 6 months, ATHEXCSD holds 100% of its proprietary assets as cash. This cash is held with the following four local banks, who are designated as systemic banks within Greece:

- Piraeus Bank
- National Bank of Greece
- Alpha Bank
- Eurobank

Additionally, a concentration limit is in place, whereby no more than 30% of ATHEXCSD's reserves may be held with any one entity. However, no credit risk, liquidity risk, capital adequacy, operational or any other type of ongoing monitoring of these entities is conducted in relation to their role as a custodian bank for ATHEXCSD proprietary assets.

As systemic banks, they are supervised directly by the European Central Bank, in conjunction with the BOG, and although ATHEXCSD should use the ECB and BOG monitoring findings, their analysis should not stop there, and should include internal assessments as well.



**KEY CONSIDERATION 2:**

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

**Description**

As documented in Principle 1, the legal grounds on which ATHEXCSD enforces its interest or ownership rights on assets held in custody are documented in the national Law 3756 of 2009, which gives the DSS the ability to monitor the transfer of both, Greek and foreign securities, regardless of the venue where they are listed.

Section 9, part 2 of the ATHEXCSD rulebook, and Section 5 of resolution No.9 stipulate the terms and regulations under which ATHEXCSD may hold links with foreign CSDs, either directly, or indirectly through an intermediary. The rulebook stipulates the requirement to enter into necessary agreements with other CSDs in accordance with article 85 of regulation (EU) 2017/392, which includes ensuring that the services provided to ATHEXCSD by the other CSD facilitate the exercise of any and all rights of beneficiaries that maintain securities accounts in the DSS.

The legal grounds that grant the FMI access to its assets, in the event of a participant or custodian (in relation to ATHEXCSD's proprietary assets) default, are in national Law, regulation, ATHEXCSD's rulebook, resolution 21, bilateral or multilateral treaties, and contracts. This includes access to securities that are held with a custodian in another time zone or legal jurisdiction.

ATHEXCSD's investment policy stipulates that ATHEXCSD has immediate and unconditional access to its assets when required. However, there is no explicit protection of CSD cash, or contractually agreed preferential treatment for the CSD's assets in the event of an insolvency of one of the banks.

**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.*

**Description**

As all eligible domestic securities are held within ATHEXCSD, foreign securities are held within 2 FMIs (Clearstream and SIX SIS), which are covered in Principle 20 – FMI Links, and ATHEXCSD does not hold any client cash, this key

consideration is only applicable for the proprietary assets of ATHEXCSD, which consist solely of cash and are held within 4 local custodian banks, as detailed in Key Consideration 1.

As previously described in Principles 3, 15 and 16 – KC1, ATHEXCSD conducts an annual review of its participants through the use of questionnaires and supporting documentation requirements, however, this process only focuses on the role of custodians, which are members of ATHEXCSD, and as such, hold client assets rather than the reserves of ATHEXCSD.

Presently, the criteria for selecting the banks, with which ATHEXCSD will hold its assets is extremely limited, with the four banks being chosen as a result of them being the four systemically important banks in Greece, and as such, fall under the remit of the ECB for oversight purposes. Aside from this, the only other selection criteria are the requirement for all assets to be held in cash, and concentration limits of 30% of ATHEXCSD assets per institution.

The investment policy does stipulate that the CSD's assets may also be held with the bank of Greece (BOG). It was advised that this option has not been used in recent years due to the EU benchmark interest rate having been at, or very close to, 0% for the past decade. However, recent interest rate rises should make using the BOG a more attractive option from an investment perspective, while also being the safest option from a risk perspective.

As has previously been covered in principle 3, any risk analysis of third parties is embedded within the four other key risk categories identified within the risk management framework, and as such, receives little direct focus from a risk perspective.

**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.*

**Description**

ATHEXCSD has a documented investment strategy, which is disclosed to stakeholders. As previously mentioned, the investment strategy stipulates that ATHEXCSD's assets are required to be held in cash (in EUR), thus ensuring no market exposure and the ability to liquidate its assets immediately, with zero delay. The policy explicitly refers to the proprietary assets of ATHEXCSD and therefore, client assets may not be invested in any way.

The investment policy is reviewed and approved annually by the board of directors.

## Principle 17: Operational Risk

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

### Principle Summary

Operational risk has been defined as one of the four core risks within the ATHEX risk management framework, and a dedicated operational and compliance risk management policy is in place to expand upon and support the risk framework. In addition, there are over 60 operational procedure documents, including 16 IT and cyber security procedures, which are all reviewed on an annual basis. The risk management function is set at ATHEX group level, and as such, there is no dedicated ATHEXCSD operational risk function.

The RM framework contains clearly defined processes for the identification, measurement, monitoring and management of risks, and a clear structure for updating and reviewing the framework, policies, and accompanying controls.

A three-line of defence approach is adopted for risk identification, utilising line managers (line 1), the risk and control function (line 2) and the audit function (line 3). Identified risks are measured using a 6-grade evaluation scale based on both quantitative and qualitative considerations, with KRIs being put in place using various metrics and risk tolerances. The ongoing monitoring of risk and control performance is conducted manually on excel spreadsheets, with KRI related metrics being primarily obtained manually.

An internal audit function is in place, with a clear and detailed structure. Internal audit reports into the audit committee and the BOD, who are responsible for reviewing and approving the annual audit strategy and audit plan. CSD core operations are audited on at least a 2-year cycle, while CSD core systems are audited annually. An external entity conducts an annual IT audit in support of the internal audit function, along with a separate, group level control system evaluation covering all areas within the 3 ATHEX entities. However, this control system evaluation is only conducted every three years.

Operational reliability objectives are clearly stipulated and tested on an ongoing basis, with an annual review being conducted by the board. ATHEXCSD currently utilises under 50% of total system capacity on average, and has scalability plans in place, along with automatic alerts when usage reaches pre-determined levels.

Software is developed and maintained in house, meaning no agreements are required with third-party providers. External entities are utilised for hardware development, and contractual agreements are in place with pre-agreed maintenance response times.

A four-member information security team is in place, who report directly to a dedicated security management committee. ATHEXCSD has a documented physical security policy, a cyber security framework and cyber security policies, which are all reviewed annually, and following any changes, by the security management committee. Strong controls are in place for physical security and cyber security, including network, data loss prevention and user protection measures.

Detailed documented disaster recovery and business continuity plans are in place, which are accompanied by 24 dedicated unit recovery plans. All plans are reviewed and tested on an annual basis, although DR testing only focuses on BAU activities and does not include testing of the scenarios identified within the DR/BC plans. ATHEX has a 'hot' backup site 40km away from the production site, which is accessible in under 1 hour in normal conditions. Significant security and environmental protection measures are in place at the backup site, which has a dedicated area for ATHEX staff to work, including 12 dedicated seats for CSD staff. All CSD staff are able to work fully from home as well.

Third-party operational risks have been identified, with corresponding KRIs having been developed, although these are embedded within the other risk categories, with no dedicated third-party risk function, policy or risk matrix in place.

**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.*

**Description**

ATHEX Group has a risk management framework document in place, which has identified Operational risk as one of the four key risk categories for ATHEX. The framework defines Operational risk as the potential financial damage that may result from the inadequacy, failure or inappropriateness of established internal procedures, controls and systems, from any external events such as natural disasters or terrorist attacks or the human factor. The Risk framework further stipulates external risks, technology risks, human resource risks and risks from core activities as sources of operational risk. As detailed in Principle 3, key consideration 1, the risk management framework details the processes and procedures to identify, measure, monitor and manage risks borne by the entity, through the use of methods such as:

- The 3 line of defence approach to risk identification

- The 6-grade scale of risk evaluation
- The use of KRIs and pre-determined risk tolerance and metrics for operational risk monitoring
- Various controls (over 75% automated) use to manage identified risks in practice.

Specific KRIs have been identified for each source of operational risk, and are documented on a KRI summary table, which is maintained manually on an excel file. Metrics have been pre-determined for each KRI as a means to monitor performance against each KRI, however, as risk management is a group level function, there is a significant emphasis on risk at trading level, with very little focus on depository related risks.

ATHEXCSD has over 60 operational procedure documents in place, including 15-16 IT and cyber security procedures. Each document details, amongst other requirements, staff responsibilities, descriptions of activities (including process flow diagrams), documentation requirements, application/system usage and risk controls. All processes are reviewed annually by the head of each respective department as part of risk and control self-assessment. In addition, internal audit will also review a sample of procedures on an annual basis to test for accuracy and effectiveness. Any changes to operational procedures must be implemented by the head of the department and signed off by the risk management function.

Staff training needs are monitored for all roles as part of ongoing review processes, which are detailed within the company HR policies. In addition, all roles have pre-defined educational and certification requirements to ensure that each employee meets certain minimum standards for their role. Mandatory training is conducted on the following areas annually, for all staff:

- Information security
- Code of ethics
- Fraud
- GDPR

Training completeness is monitored, but staff members are not required to take any sort of testing to confirm understanding of the training.

Detailed change management procedures, policies and mechanisms are in place to ensure that any changes to systems or processes do not cause undue issues. All testing is conducted within a dedicated testing platform, and where necessary, includes participants and other related third parties, including external cyber threat experts.

*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.*

## Description

There are clear lines of responsibility to identify and assess operational risks, with operational risks controls being signed-off by the head of the respective department and the risk manager. The board explicitly reviews and endorses the risk management framework, along with the operational risk and compliance risk policy on an annual basis. Operational procedures are reviewed annually by the respective department head, along with the internal audit function, whereas operational controls are reviewed annually, and after any changes, by the department head, and the risk management function.

### Internal Audit

ATHEX Group has a dedicated internal audit function, which reports directly to the board of directors, via the audit committee. The audit team consists of 5 people, with 1 person fully dedicated to the CSD function. ATHEXCSD follows the legal requirement for all audit personnel to be qualified and stipulate their own qualification and experience requirements.

An annual audit plan is prepared, based upon a risk assessment of all internal departments. The frequency of audit for each area is determined based on these assessments and the regulatory (Laws, Directives, Policies) guidelines that the company must comply with.

Core CSD operations are audited on a two-year cycle and core systems are audited annually. The risk assessments take into account the findings of previous audit programmes, along with each department's risk self-assessment. The strategy is reviewed by internal audit and the audit committee on an annual basis, and whenever there is a significant change to a process / system etc within a department. Prior to commencing a departmental audit, all process, procedural and risk documentation is provided to audit for an initial review. All procedures are reviewed against a sample of activities, with findings being agreed with the relevant department prior to being sent to the audit committee for review.

For IT and cyber security audits, the internal audit function collaborates with the information and security unit.

All findings are documented, and progress monitored in a dedicated system, detailing responsibility for resolution, risk level and agreed resolution date. All staff have access to the system to view and update progress. Quarterly follow up reporting is provided to the audit committee, and if any department is unable to complete an audit recommendation as

agreed, they are responsible for providing a report to the audit committee detailing why and proposing action. As part of the HCMC annual review, it will check all audit results and the upcoming audit plan.

It was advised that only minor issues were identified in the last audit programme with nothing major. Of these, all but 1 had been resolved, with 1 HR related issue remaining open.

In 2020 KPMG conducted a review of the ATHEX internal audit function, which is planned to be conducted every 5 years.

#### External Audit

An external entity is contracted to conduct an IT audit in support of the internal audit function. The audit is conducted jointly with the CCP and CSD systems, but primarily focuses on the DSS system. The audit scope is defined in an annual audit plan, comprising an IT risk assessment. The audit will also consist of controls testing and applications testing, along with various security testing procedures such as penetration testing, cyber response assessments and PKI testing. The risk assessment and external audit function is currently heavily linked to the internal audit process and does not appear to have full independence. External audit findings are uploaded into the internal audit system, with progress being monitored by internal audit, but are flagged as external audit recommendations.

The external auditor is selected for a three-year period, following which, a review will be conducted and either the same, or a different auditor will be selected. The selection is conducted in line with a pre-defined RFP.

The most recent external audit highlighted some low-level findings, but no major issues were found.

In addition, ATHEX group conducts an external evaluation of the control system in accordance with the requirements of Law 47/06 of July 2021 on corporate governance framework. The evaluation is initiated at group level, but the obligation is to cover all important subsidiaries, meaning that ATHEXCSD and ATHEXClear are included. The COSO framework is used as the basis for the audit, which is centred around five key areas:

- General Control Environment
- Risk Management
- Processes, Procedures and Systems
- Internal Control
- Regulatory Compliance

The evaluation is conducted every three years. The first evaluation was conducted in late 2022, with the final, group-level report having been submitted to the HCMC in March 2023. This evaluation highlighted some minor findings, but no high-risk issues. Any identified findings follow the same resolution process as identified earlier.

**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.*

## **Description**

ATHEXCSD has an operational reliability plan in place, with details provided publicly under Resolution No.14 – Technical terms and procedures for the provision of Information technology Services. Within this resolution, it is stipulated that the availability of the Dematerialised Securities System (DSS) shall be at least 99.8%. Over the past three years, the average system uptime has been 99.994%. Automated monitoring tools are in place to collect data and provide performance logs for all internal systems.

ATHEXCSD's recovery point objective (RPO) is at point of loss of availability and is supported by the recovery time objective (RTO) of between 60 and 120 minutes, for core services, which is in accordance with the CSDR RTO requirements. ATHEXCSD documents its operational reliability (OR) objectives in its Master Business Continuity Plan and Partial Business Continuity Plans. ATHEXCSD has 24 recovery plans, each dedicated to a specific unit, department, or function.

All software development is conducted in-house within ATHEX, and as such, no service level agreements (SLAs) are required with third-party vendors in relation to maintenance or repairs of software. Full service agreements are in place with hardware manufacturers, with contractually agreed response times of between 2 and 4 hours with the providers. The mandatory hours for technical support on settlement days are from 9.00am to 6.00pm. Any new IT functionality may be requested by any business division, with development following a standard process as follows:

- Software creation
- Internal testing
- User Acceptance testing
- Dedicated sessions with external members
- Internal vulnerability testing
- External penetration testing.

A dedicated testing environment is in place, which is a replica of the live environment.

As stipulated in Principle 3, KC 1, a documented incident reporting process is in place, whereby any risk event is logged by the relevant department. This system is in place for materialised incidents, near misses and observations, with each



incident being reviewed by the departmental head and the risk team who will conduct a root cause analysis, identify, and evaluate the risks and produce recommendations. Any subsequent control implementation is the responsibility of the dedicated department, with reviews being conducted by Risk Management.

The reliability objectives are reviewed annually and are disclosed to management team, the board of directors, the regulator, and audit. However, it was advised that no periodic IT performance reporting is provided to the board of directors.

**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.*

**Description**

ATHEXCSD assesses its system capacity utilisation fully on a monthly basis, but also has built in tools, which use various metrics to monitor usage levels and any spikes on an ongoing basis. It was confirmed that on average, the ATHEXCSD systems are utilising less than 50% of total capacity. A capacity utilisation stress test is conducted on an annual basis.

An alert mechanism is in place, whereby usage levels that reach over 80% of capacity for storage, memory, etc, will be immediately flagged. A red, amber, green monitoring system is in place, whereby above 80% is flagged red on the systems and approaching 80% is amber, to ensure increases are also on the radar of the IT department, without the need to necessarily take action at that point.

As mentioned in KC 3, systems maintenance is conducted in house, and as such, any increases in capacity are conducted by ATHEX IT staff, with no need to call on vendors. However, any increases are conducted manually, with no automated functionality to introduce increased capacity, as such, the length of time it will take to increase capacity in the event of a spike in usage is unclear.

**KEY CONSIDERATION 5:**

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

## Description

ATHEXCSD has a Physical Security Policy in place, which has been created by the information security department and HR, with the assistance of a technical consultant, and approved by the management team (not by the board).

The information security team consists of 4 members, and reports into a dedicated information security management committee that approves the physical and cyber security policies and framework on an annual basis and following any changes. The committee has 8-9 members, including the CFO, CTO, COO, CRO, HR manager, Data Protection Officer, a member of the legal team and a representative of information security. Senior management are responsible for the compliance with security policies, while the information security unit is responsible for the implementation of the policies. The committee supervises, reviews, and approves the policy.

The Physical security policy has clearly defined lines of responsibility and has identified and defined physical security issues along with corresponding mitigation measures, which cover the following:

- Interior and exterior building security
- CCTV
- Fire
- Flooding
- Natural Disasters
- Power supplies (UPS/Generators)
- Network Protection
- Environmental measures

In addition, the policy details access restrictions and requirements for objects and people, and workplace safety measures for staff.

Access control measures include a team of security guards, who operate on a 24/7 basis, access control systems for all areas, two-factor authentication, security cameras monitored, equipped with motion sensors constantly monitored and Chinese walls separating each required department or function.

ATHEX group information security management is in accordance with ISO 27001 standards.

ATHEXCSD hosts its primary data centre and a secondary, identical data centre in its main site. The walls are made of reinforced concrete and are 50 centimetres wide. In order to access the areas, key cards are needed, and visitors must sign a log after previous authorisation, however, the area directly outside the data centres is relatively easily accessible. The data centre has dual redundancies across all aspects (two data rooms, two network rooms and two

power and UPS rooms). Each area is fully segregated. Separating doors are reinforced steel with key-card authorisation access. All rooms have a gas suppression system and anti-flood system (i.e. elevated floors to protect equipment). ATHEXCSD has three generators of 1.1 megawatts that operate, on average, at 30% capacity. Generators are tested weekly. There are five UPS in each data centre, which can provide one hour of power. As the generators take less than a minute to be up and running, the UPS capacity is sufficient to ensure continuous electricity flow. The fuel tanks in the main site, needed to keep the generators, can hold 30,000 litres of diesel, which gives the main site an operating autonomy of 72 hours. 7 cooling systems are in place, however, only 1 is required to keep any one data centre at the correct temperature at any one time.

In terms of cyber security, there are 4 dedicated members of the information security team, who oversee a total of 16 IT and information/cyber security policies and 15 procedural documents. Penetration testing and vulnerability scans of the systems are conducted annually and upon the implementation of new critical services internally, and by an external party as part of the internal audit function. No significant issues were identified during the ethical hacking test conducted by a third party in 2022. In addition, periodical vulnerability assessments are conducted throughout the year by the information security division. Cyber threat security protection mechanisms include:

- Firewalls
- Network and web-applications
- Data loss prevention
- Data classifiers
- Anti-virus
- Mobile phone restrictions
- Identity management solutions
- Access controls for third parties (VPN, username and password protected)
- E-mail alerts

Data sharing agreements are not currently in place with linked third parties (e.g., custodians, brokers) should the CSD's data become compromised or lost.

**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.*

**Description**

ATHEXCSD has detailed and documented BCP and DR plans in place with objectives, policies, clear lines of responsibilities and action plans in case the main offices of ATHEXCSD are unavailable or the main data site is compromised. 24 documented recovery plans are in place for each different unit within ATHEX. All DR and BC frameworks and plans are reviewed annually, and as part of the internal audit function.

The DR site is 40 km from the CSD’s main site, in a different seismic area from Athens. ATHEXCSD has an RTO of 2 hours to switch to the DR site, but in practice can reach the site in under 1 hour and can switchover from the production server to the backup server in 5 minutes. The return to the production site also takes approximately 1 hour. The site is hot, and DR readiness and connectivity tests are conducted annually. DR and BCP arrangements are tested on an annual basis, involving market participants on a live working day. Testing consists of BAU activities, and although the DR/BCP plan has identified numerous scenarios that could invoke the DR/BCP under the following sub-areas, these scenarios do not appear to be tested:

- Loss of Building
- Loss of Staff
- Loss of technology
- Loss of Critical Vendor
- Physical attack
- Pandemic

The table below has the list of those parties involved in the FMI’s DR readiness and connectivity tests, as well as the circumstances of the testing.

Table 5: ATHEXCSD’s DR Readiness Test Programme

	Live environment	Offline	N/A
Payment system provider from their main site		<input type="checkbox"/>	
Payment system providers from their DR site		<input type="checkbox"/>	
Participants from their main site	<input type="checkbox"/>		
Participants from their DR site	<input type="checkbox"/>		
Critical service providers from their main site	<input type="checkbox"/>		
Critical service providers from their DR site	<input type="checkbox"/>		
Exchange from main site	<input type="checkbox"/>		
Exchange from DR site	<input type="checkbox"/>		
CCP from main site	<input type="checkbox"/>		
CCP from DR site	<input type="checkbox"/>		

ATHEXCSD outsources the DR and BC site to Lambda Helix, a company specialised in hosting IT equipment offices that provide back-up facilities in case of emergencies. Lambda Helix has state-of-the-art facilities and was given ISO 22301 certification. The site is well protected. There is an outer wall as a first line of defence. Entrance to the site can only take place with a prior appointment booked by authorised staff at ATHEXCSD. Visitors are required to bring photo ID, and entry is only given by security guards. There is a CCTV system in place featuring over 150 cameras, along with 24/7 availability of security guards, engineers, and electricians. No equipment checks are conducted upon entry of individuals, but all deliveries are given thorough security checks.

A gas system is in place as the primary fire suppression method, with secondary water sprinklers. In terms of environmental control, a system checks the air for particle per million (PPM) levels, and if it exceeds a certain threshold, an alert will be provided to the security centre, which is monitored on a 24/7 basis. Air pressure is kept artificially high to reduce dust, and sticky patches are placed on the floor in front of all doors to collect dust from the shoes of anyone entering. Chillers are installed on the roof of the back-up centre to cool water, which passes through cracks in the walls in order to keep the air temperature cool inside the server rooms.

In terms of power supply, the following is in place:

- 2 Transformers

- 2 UPS
- 4 generators (2+2 formation)

Each different power supply is on a separate power grid. Agreements are in place with 2 fuel suppliers to provide fuel as and when required. 2 oil tanks, with 25,000 litre capacity are held within the site. At full capacity, the generators can provide power for 2 days. Each UPS can provide 8 minutes of power at full capacity. Network redundancy is achieved through the use of 2 providers with 2 entry points and 2 meet me rooms (MMRs).

Data is backed up from the main server to the secondary servers in approximately 1.2 milliseconds. Within the BC site, ATHEX group has a shared workspace with another company, ENEX. ATHEX and ENEX have approximately 40 dedicated seats, combined, with ATHEXCSD having 12 dedicated seats. Critical roles have been pre-identified for each seat. In addition, all staff have full access to all required systems and programmes to be able to work from home. All systems and programmes are available on all computers at the BC site, which are fully mirrored from the ATHEX production site. Programme or software changes can be made for BC site terminals from the main site.

**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.*

**Description**

ATHEX has identified individual risks and respective KRIs that are posed to and from third parties under the 4 identified risk groups (Operational, Financial, Compliance and Business risk), but does not have a dedicated third-party risk policy, section within the framework, or risk register. As detailed previously in Principle 3, KRIs with pre-determined metrics formulated with a consideration towards pre-agreed risk tolerance levels are in place for all identified risks, and these are monitored manually at pre-determined intervals.

As part of the 6-grade scale for evaluation risk, one of the qualitative criteria is service level to customer, showing that the impact on clients, market participants and the overall capital market is a consideration for all identified risks.

A yearly assessment of members is conducted in line with CSDR requirements, whereby ATHEXCSD will assess the compliance and cyber security standards of all participants, via a questionnaire conducted by the member support department. A risk assessment is conducted on each provider, whereby criticality is evaluated based upon access

levels, the nature of functions and privacy standards. Member support are responsible for setting the parameters of the questionnaire, with risk management checking for adherence. The questionnaires have good focus on compliance with ATHEXCSD requirements but have minimal risk management focus. Member support also manage the service desk, which is an online tool, where participants are free to ask questions, raise issues and provide feedback to ATHEXCSD at any time. Although the service desk can be used to provide feedback, ATHEXCSD does not have a formal process for receiving and reviewing member feedback. A quarterly report of all correspondence through the service desk is provided to risk management including trends and other metrics.

A set process is in place for establishing and monitoring FMI links. Presently, ATHEXCSD has a direct link with SIX SIS in Switzerland, Clearstream Bank Frankfurt, and the Bank of Greece. The process includes conducting an initial link assessment in accordance with CSDR requirements and identifying risks based on CSDR recommendations. An annual questionnaire is issued to linked FMIs for compliance and risk assessment purposes through member support. Senior management decide which questions to focus on each year, with no specific framework or methodology to back up the choices. External legal opinions are also used to help with cross-border legislative compliance.

From a financial perspective, ATHEXCSD will ask for copies of financial statements of participants on an annual basis and will monitor liquidity / exposure levels on a daily basis, but do not have any pre-determined financial monitoring criteria for third parties. In this sense, ATHEXCSD relies on the oversight of participants from HCMC and BOG. HCMC monitor participant capital levels against MIFID requirements, and if these levels fall below what is stipulated in MIFID, the HCMC has the authority to immediately suspend said participant. However, HCMC does not conduct liquidity monitoring of members.

ATHEX has a third-party security policy in place for all linked entities. Third parties with access to ATHEXCSD systems, may only connect through an authorised VPN with username and password requirements.

## Principle 18: Access and participation requirements

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

### Principle Summary

ATHEXCSD has detailed operational requirements for all participants and places a lot of emphasis in the technical capability and robustness of the members. However, the CSD does not set exhaustive financial criteria as it mainly relies on the financial requirements set by the regulators, alongside the requirements for participation set by CSDR. ATHEXCSD does not differentiate system access according to function. The criteria are reviewed by the management team, the competent authorities and by the Board of Directors on an ad hoc basis, when market conditions change.

The CSD does not require participants to have risk management expertise.

There is an annual review of compliance with the rules. ATHEXCSD monitors compliance by receiving reports and through ongoing due diligence. On-site visits can be scheduled on an ad-hoc basis, depending on the findings of the annual review.

#### *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.*

### Description

ATHEXCSD has set operational requirements for its participants in terms of connectivity, capacity and Business continuity arrangements. Most participants maintain two dedicated optical cable lines, one primary and one back-up from different carriers due to resilience purposes, in order to connect to the CSD, however access via internet is also an option for the participants either as a primary solution or a back-up. If a participant chooses to connect via internet, then personal security certificates issued by ATHEX, must be installed at the CSDs accessing terminals (DSS) ATHEXCSD's network department is responsible for setting up the dedicated cable lines for participants; the CSD selects and pays the providers of the lines and passes the cost back to participants. The CSD oversees all network arrangements for members, besides the internet option. Participants should also meet certain requirements for access to DSS, as stipulated in Decision 2 of the ATHEXCSD Board of Directors. In order to retain its CSDR license, ATHEXCSD



must allow for fair and open access to its services and must ensure that participants meet the requirements set by CSDR. Hence, ATHEXCSD follows best market practice for access and requirements for participants.

Furthermore, ATHEXCSD issues securities clearing and settlement certificates to persons that will act as users in the DSS terminals, i.e. persons that an applicant seeking to obtain the capacity of Participant has designated to be responsible for carrying out the tasks of that Participant. ATHEXClear also issues a certification for users that conduct clearing procedures at the DSS, this certification is called the Securities Clearer Certificate.

ATHEXCSD does not require that participants meet minimum financial criteria in relation to the specific needs and risks of the CSD. If the ATHEXCSD member is also an ATHEXClear member, then the CCP's financial criteria would apply (similarly for members that are ATHEX members (brokers)). Foreign banks and brokers are also allowed to participate in DSS.

ATHEXCSD imposes its own legal requirements for participants.

In terms of access to services, ATHEXCSD allows the same access to all operators, regardless of the functions they will be performing – promoting fair and open access to all participants. The CSD are required to publicly disclose the participant criteria and must ensure it is transparent, objective and non-discriminatory. ATHEXCSD reviews the compliance of its members annually and requires members to send annual financial statements to ensure financial capability is at an acceptable level.

Other market infrastructures are allowed to become members of the CSD. Specifically, ATHEXClear and the Bank of Greece are already members, and the ATHEXCSD Rulebook allows foreign CSDs to apply for membership.

#### **KEY CONSIDERATION 2:**

*An FMI's participation requirements should be justified in terms of the safety and efficiency of the FMI and the markets it serves, be tailored to and commensurate with the FMI's specific risks, and be publicly disclosed. Subject to maintaining acceptable risk control standards, an FMI should endeavour to set requirements that have the least-restrictive impact on access that circumstances permit.*

#### **Description**

According to article 75 of law N.3606/2007, all licensed credit institutions and investment companies that operate in Greece, as well as other system operators, either domestic or foreign, are eligible to become members in the Greek clearing and settlement systems, provided they fulfil all requirements stipulated in the regulations of such systems.

The ATHEXCSD Rulebook, which is authored by the CSD itself and overseen by the HCMC, is the pertinent regulation for the CSD, and Resolution 2 of the ATHEXCSD Board of Directors, set the relevant requirements for participating in the CSD and accessing the DSS. The CSD follows the participant requirements set out in CSDR. The requirements are operational, and legal and apply to all classes of participants. The criteria are reviewed by the management team, the competent authorities and by the Board of Directors.

The participation criteria are reviewed on an ad-hoc basis, as and when law/regulation change. All criteria and any changes to them are disclosed to participants via the CSD website. In order to ensure minimal disruption in market conditions by any change in the requirements, the CSD holds frequent meetings and discussions with participants.

**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.*

### **Description**

ATHEXCSD monitors participants' compliance with the access criteria by receiving timely reports from participants and through ongoing due diligence. The CSD holds an annual compliance exercise for all participants. However, the CSD does not perform on-site due diligence visits. The CSD schedules regular meeting with participants. ATHEXCSD also send out two annual questionnaires regarding settlement and organisation to all participants, which are used to monitor compliance with its requirements. Nevertheless, the CSD does not have formal procedures for conducting enhanced surveillance or imposing additional controls for a participant whose risk profile deteriorates.

The CSD is informed immediately either by the Bank of Greece or the HCMC about the suspension of a bank or a broker, respectively. The CSD then puts into motion the necessary process for barring the member from accessing the DSS. ATHEXCSD would suspend the participant and freeze the accounts of the participant, notify the participant, notify all the other participants, and advise the general public with a press release.

## Principle 19: Tiered Participation

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

Principle 19 does not apply to ATHEXCSD

## Principle 20: FMI Links

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

### Principle Summary

ATHEXCSD has links with five FMIs – four CSDs and one CCP:

- Bank of Greece (BOGS; Greece), for the settlement of Greek government securities;
- Clearstream Banking Frankfurt (CBF; Germany), for the settlement of German-issued securities;
- SIX SIS (Switzerland), for the settlement of international securities in the following markets: Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Italy, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland, UK, USA, Australia, Hong-Kong, Japan, South Africa, Singapore, New Zealand;
- Cyprus Stock Exchange (CSE as operator of the Central Securities Depository and Central Registry in Cyprus), for the settlement of Cypriot securities;
- ATHEXClear (Greece), a vertical link with the ATHEXGroup's CCP for the settlement of centrally cleared transactions.

ATHEXCSD considers legal, credit, liquidity, custody and operational risks when establishing a link with an FMI. The CSD has a structured selection methodology but the process for the regular review of these links and the risks they pose is not as rigorous.

All ATHEXCSD links are based on legal contracts and are well supported. ATHEXCSD ensures that there is a sound legal basis before a link is established and that adequate protection can be provided in all relevant jurisdictions.

ATHEXCSD only actively monitors settlement risk with its FMI's but maintains it does have procedures in place to monitor credit and liquidity risk when they occur, although no evidence has been provided. Nevertheless, ATHEXCSD does not extend any type of credit to a linked FMI.

ATHEXCSD prohibits the provisional transfer of securities between linked CSD's, and only establishes a link with an issuer CSD if it meets a high level of requirements as stipulated in CSDR. These include the segregation of assets, DVP arrangements, moments of finality, and other protection provisions.

CSDs that use an intermediary to operate a link with an issuer CSD should measure and monitor the additional risk that may stem from the indirect links. ATHEXCSD uses SIX SIS both as an intermediary to other foreign CSDs, and as an Issuer CSD for Swiss securities. The CSD performs an overall review of its arrangements with SIX SIS but has not taken steps to ensure effective management of additional risks, especially legal risks, that may result from the indirect connections in jurisdictions outside of Switzerland.

The link with SIX SIS is used for the settlement of cross-border trades booked in ATHEX's X-net service, which ATHEXCSD supports as an Investor CSD. At the time of the assessment, the X-net service was fully active; however, the CSD has plans to imminently decommission most markets offered through the service, which would ultimately reduce ATHEXCSD's exposure to foreign market links. Nevertheless, the core of this assessment remains relevant as the link with SIX SIS will be retained, just for fewer markets.

#### *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.*

#### **Description**

When deciding to establish a link, ATHEXCSD issues a request for proposal to a few, select providers and makes a decision based on risk and cost considerations. ATHEXCSD analyses the legal and custody risk by obtaining legal opinions for the jurisdictions in which the links operate. It tries to mitigate operational risk by approaching only well-established and reputable FMIs. From a liquidity perspective, ATHEXCSD conducts an analysis of liquidity needs based on business volumes and the particular conditions of the markets the link is covering.

The risk assessment of new links and the ongoing monitoring of existing ones is heavily informed by CSDR requirements; especially the link with SIX SIS, which is a link with a third-country (i.e. non-EU) CSD and is under additional scrutiny. All link arrangements must be reviewed by the regulator. For its authorisation under CSDR, ATHEXCSD had to provide HCMC a description of its CSD links accompanied by assessments of potential sources of risks arising from those link arrangements.

Once the link is established, ATHEXCSD reviews the link at least annually by issuing questionnaires to the linked CSDs, and also upon becoming aware of any changes or updates to the FMI that may impact the link. The annual review is performed by the Asset Servicing department of ATHEXCSD. It is desk-based and is conducted exclusively by the Head of the department, who has discretion over which areas of the link arrangements are reviewed every year and is responsible for assessing the responses. ATHEXCSD does not perform any other type of operational review or on-site due diligence of linked FMIs and there is no formalised procedure for the review of links.

**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.*

**Description**

ATHEXCSD has obtained legal opinions for all the FMI links it operates as part of its authorisation under CSDR. The legal opinions describe the legal framework and offer an assessment of the applicability of insolvency law and other relevant local legislation. The opinions offer assessments on different segregation levels, applicability of settlement finality and insolvency, privileged investor rights, and asset portability in case of defaults. ATHEXCSD has determined that the rights of the beneficiaries of securities are not affected and are protected under applicable laws in the different jurisdictions in which the linked FMI has its legal basis.

All the links are established on contractual agreements that are governed by the applicable law of the jurisdiction in which the FMI has its legal basis. Almost all links, with the exception of the link with SIX SIS, have their legal basis grounded on the EU legal framework that currently governs the capital market in Europe. The SIX SIS link is governed by Swiss law which is very closely aligned to EU law.

ATHEXCSD's proprietary assets are kept segregated from client assets in all jurisdictions.

**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.*

**Description**

The ATHEXCSD settlement services department monitors the settlement values to foreign markets via several reports:

- the X-net turnover report automatically generated by the trading system, which contains information about the trading activity on the specific day per participant, as well as additional statistical information regarding value of the activity in the last 10 days, 25 days, and year-to-date;
- a report which contains details for all the instructions that were concluded in foreign markets, and they are to be settled and;
- a forecast report that is extracted from the DSS system, which contains information per foreign settlement place regarding the value of buys and sells, as well as, the net amount of money that has to be transferred to SIX SIS for their settlement.

The settlement department monitors the settlement values and exposure to foreign markets on a daily basis and informs the management in cases that the daily activity exceeds significantly the normal one. ATHEXCSD does not need to pre-fund settlement in any of the links.

ATHEXCSD does not extend any type of credit to a linked CSD, which significantly reduces its exposure to BOGS, CSE, Clearstream and SIX SIS.

**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.*

**Description**

ATHEXCSD does not allow for the provisional transfer of securities, which are explicitly prohibited by CSDR in the context of FMI links. In addition, the prohibition is a consequence of the settlement finality principle, as set out in law n. 2789/2000 (which transposed into Greek law the Directive 98/26/EC on settlement finality) which dictates that any

debits and credits made to the declared cash and securities accounts on the basis of settlement transfer orders in the context of conducting settlement rounds are final and are not subject to any reservations or conditions.

**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.*

### **Description**

For all established links, ATHEXCSD, as an Investor CSD, determines the level of protection for the rights of its participants in terms of segregation of assets and asset protection provisions.

In case of both direct and indirect links with other CSDs, ATHEXCSD complies with Greek national law (Article 11 of Law 4569/2018), which ensures the segregation of assets and the rights of the beneficiaries as registered in its books. ATHEXCSD maintains in its name an omnibus securities account in the linked CSDs. All assets kept in the omnibus accounts are then reflected in end beneficial accounts at ATHEXCSD. According to Law 4569/2018, in case of ATHEXCSD's insolvency, the assets registered in such accounts are considered to be client assets and are, therefore, handled as such in bankruptcy proceeding to allow for their free availability.

ATHEXCSD has received legal opinions for all direct CSD links to ensure that in case of insolvency of a linked CSD, the rights of the beneficiaries of the securities are not affected and are protected under applicable laws in the different jurisdictions. The legal opinions cover matters of segregation levels, insolvency laws, investor rights, and portability of assets.

The Reconciliation between the investor CSD and the issuer CSD takes place every morning and throughout the day ATHEXCSD can monitor positions at any time.

**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.*

### **Description**

ATHEXCSD's relationship with Citibank as an intermediary to foreign CSDs was terminated in 2021, when all international assets were moved to SIX SIS. ATHEXCSD accesses other CSDs via its link with SIX SIS, and SIX SIS should be considered as an intermediary in this case and the risk considerations described in the previous sections apply here.

However, ATHEXCSD has not acquired legal opinions for foreign jurisdictions where it operates indirect links via SIX SIS. The CSD has not enquired with SIX SIS whether the linked FMI has itself examined legal arrangements in the foreign jurisdictions where it operates.

**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.*

**Description**

The FMI does not act as a CCP. Accordingly, this Key Consideration is not applicable.

**KEY CONSIDERATION 8:**

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

**Description**

ATHEXCSD does not act as a CCP. Accordingly, this Key Consideration is not applicable.



## Principle 21: Efficiency and Effectiveness

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

### Principle Summary

ATHEXCSD has relatively good communication with its participants to ensure it operates in an efficient and effective manner.

#### *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.*

### Description

When it was designed, ATHEXCSD considered the needs of its participants and the market in relation to clearing and settlement arrangements, operating structure, delivery systems and technologies, individual services and products, and the need of the issuers in the context of the dematerialisation. ATHEXCSD have had to adapt some of its systems and procedures to comply with the CSDR requirements, however, these adjustments have been made with the clients' needs in mind.

To ensure that ATHEXCSD is meeting the requirements and needs of all its users, ATHEXCSD has specific user groups meetings on a quarterly basis and is also in regular contacts with its participants. All the clients of the CSD can send queries and have access to a tracking system with tickets to follow-up on the queries, which are usually answered within 24 hours by the member support team. The CSD actively monitor issues and Due Diligences are conducted by Global Custodians.

ATHEXCSD also sends out two questionnaires annually in which clients can report feedback to the CSD regarding operations and other business areas.

However, there is still no formal structure from ATHEXCSD to assess participant satisfaction, its feedback structure is tailored majorly for general feedback or responses to changes, rather than overall participant satisfaction.

*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.*

**Description**

ATHEXCSD ensures that it has clearly defined goals and objectives that are measurable and achievable through pricing structure / cost considerations, review against international standards, gap analysis to international standards in corporate actions, matching standards, and others. A management team draws up the parameters by which the CSD sets and evaluates its annual targets and will be drafting its methodology in to assess its objectives. This is partly influenced by knowing how their competitors are structured and priced. ATHEXCSD has defined the ideal operative effectiveness levels and implements SLA's, that are monitored and reported to the board, to ensure these standards are upheld.

ATHEXCSD has implemented Key Performance Indicators (KPIs) for each team in the infrastructure, with strictly defined goals and objectives to ensure goals are met. There is a methodology on ownership to create accountability for each business area and each individual KPI, allowing ATHEXCSD to have full clarity on which area has not achieved their goals and who is responsible for this.

*KEY CONSIDERATION 3:*

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

**Description**

To establish its degree of efficiency and effectiveness the CSD only uses the feedback from quarterly user group meetings with clients and customer due diligences. Clients also have access to ATHEXCSD's ticketing system in which clients can send suggestions or issues regarding ATHEXCSD's efficiency and effectiveness. This feedback rapidly highlights areas of inefficiency from the participant perspective. However, there are no formal mechanisms with a regular review of its efficiency and effectiveness.

## 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.*

### Principle Summary

ATHEXCSD introduced SWIFT as its communication tool in 2022, a significant upgrade to the previous proprietary electronic system. The new system offers ISO standards 15022 and 20022 and is close to a straight through processing (STP) environment. ATHEXCSD also uses SWIFT for all cross-border operations.

ATHEXCSD is also able to convert instructions from any domestic or foreign clients that use other communication methods to SWIFT, allowing communication to run smoothly, regardless of the communication method used by the client.

#### *KEY CONSIDERATION 1:*

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

### Description

ATHEXCSD uses SWIFT technology to facilitate communication between its own systems and systems of its participants. ATHEXCSD follows internationally accepted communication procedures and standards to facilitate communication between its systems and the systems of its participants. Specifically, ATHEXCSD uses an electronic system that is compatible with SWIFT and uses SWIFT messages to communicate with participants and other stakeholders.

The CSD uses SWIFT messaging to communicate with participants and if certain participants are not compatible with SWIFT, ATHEXCSD are able to use SWIFT-like methods for communication with these specific participants. SWIFT is internationally accepted as a communication method, with most of the foreign banks in Greece using SWIFT. This allows ATHEXCSD to communicate quickly and efficiently with participants and clients. ATHEXCSD uses SWIFT for all cross-border operations and is compliant with ISO standards 15022 and 20022.

## 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.*

### Principle Summary

ATHEXCSD makes all rules and key procedures available to participants through the ATHEXCSD website. Participants have access to the ATHEXCSD Rulebook and all the resolutions of the Board, as well as to pertinent laws. ATHEXCSD is open to receiving requests by participants and the regulator for clarifications and amendments to the rules and consultations are held when the need for a change arises. All stakeholders are involved in the consultation process.

ATHEXCSD has advised that it has detailed technical documents describing the system's design and operations. However, the CSD considers these documents sensitive and confidential and are not available to the general public. Members can access these documents privately.

Participants do not appear to have access to any kind of risk assessment that would offer a clear picture of the risk that the CSD poses to them, although they seem to be aware of those risks and have a good understanding of ATHEXCSD's procedures.

ATHEXCSD publicly discloses its fee schedule and any discount policies.

#### *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.*

### Description

The rules and procedures of ATHEXCSD are comprised of provisions in national laws, the ATHEXCSD Rulebook, the Articles of Association, CSDR requirements, the decisions of the Board of Directors, the operational handbook, and the Terms and Conditions. All rules and procedures are available to participants through the ATHEXCSD website, and on the participant ticketing system. Most of the rules and procedures have been made available in English as well as Greek, however, there is no legal requirement to do so.

ATHEXCSD receives comments and requests from participants asking to amend or clarify the rules and procedures on an ad-hoc basis, or during quarterly user group meetings. As prescribed in the ATHEXCSD Rulebook, when a change is requested, ATHEXCSD will obtain approval from the HCMC and amend the rulebook accordingly if approved. ATHEXCSD will inform the market prior to implementing a change to its rules and procedures, allowing for a consultation period. The consultation period is between one and two months and is announced via an electronic newsletter (email). The feedback could be collected via emails, or even informally, and is duly processed. It is required that all participants respond to the newsletter, to ensure a holistic view of the market's view on the changes. Nevertheless, there are no formal rules for the consultation process of the CSD, as there are, for example, for the Exchange and the CCP.

The CSD has never had to amend its rules as a result of an adverse legal outcome.

The ownership of the ATHEXCSD Rulebook lies with the CSD. ATHEXCSD will consult with the HCMC to obtain approval for any changes to the rulebook. The CSD has a formal procedure for amending the rulebook, which can be found in article 1.1 of part 1, section xiii.

ATHEXCSD are also under regulation from the CSDR. The CSD must abide by the regulations set by CSDR in order to maintain its license.

Table 6: Areas/relevant aspects covered by ATHEXCSD's rules and procedures.

Membership	<input type="checkbox"/>
Safekeeping	<input type="checkbox"/>
Eligible securities	<input type="checkbox"/>
Deposit and withdrawal	<input type="checkbox"/>
Liens	<input type="checkbox"/>
Settlement	<input type="checkbox"/>
Irrevocability	<input type="checkbox"/>
Finality	<input type="checkbox"/>
Fails management	<input type="checkbox"/>
Securities lending and borrowing	<input type="checkbox"/>

Defaults	<input type="checkbox"/>
Collateral	<input type="checkbox"/>
Corporate actions	<input type="checkbox"/>
Registration	<input type="checkbox"/>
Prices and fares	<input type="checkbox"/>
Communications	<input type="checkbox"/>
Reporting	<input type="checkbox"/>
Disaster recovery	<input type="checkbox"/>
Business continuity	<input type="checkbox"/>

**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.*

**Description**

The technical documents that are made available to providers, participants, auditors or other FMIs are listed in the table below. Stakeholders are alerted on a need-to-know basis. However, ATHEXCSD does not provide the general public with access to any technical documentation. ATHEXCSD considers that its technical rulebooks contain sensitive and confidential information that should be available only to certain stakeholders and system users. The public is excluded from the distribution of such information. However, the CSD does not provide to the public any kind of high-level summary of technical rules to broadly inform the public of the CSDs technical rules and operations.

Table 7: Availability of Key Documentation

	Participant	Provider	Regulator	Other FMI	External auditor/ third party assessor	General public
Software specification	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Hardware requirements	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
Network features	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
System schematics	<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	<input type="checkbox"/>	
IT high-level architectural diagram		<input type="checkbox"/>				
None of the above			<input type="checkbox"/>			<input type="checkbox"/>

The means used by ATHEXCSD to share technical documents with stakeholders are listed in the table below.

Table 8: Main Distribution Channels

	Participant	Provider	Regulator	Other FMI	External auditor/ third party assessor	General public
Unsecured website						
Secured on-line access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>		
Annex to contract						
Due diligence report	<input type="checkbox"/>					
Brochure						
None of the above					<input type="checkbox"/>	<input type="checkbox"/>

ATHEXCSD discloses on its website the discretion it can exercise over key decisions that directly affect the operation of the system. However, this information is not available to the general public.

Finally, ATHEXCSD advises participants of their rights and obligations via the ATHEX website and by making available the ATHEXCSD Articles of Association, the operational handbooks, the ATHEXCSD Rulebook and the relevant national legislation. These sources are available in English, as well as Greek.



*KEY CONSIDERATION 3:*

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

### **Description**

ATHEXCSD makes its rules and by-laws available online. Participants have immediate access to the CSD's procedures and processes through the ATHEXCSD website. However, there is no disclosure of risks faced by participants, which would allow participants to have a clear picture of the risk the CSD poses to them.

Nevertheless, there is evidence to suggest that participants understand ATHEXCSD's procedures and of the risks that they are taking on by participating in ATHEXCSD. This evidence is collected via surveys, the online ticketing system, quarterly user group meetings and open communication channels on a project basis. This process allows the CSD to assess and address participants' understanding of the changes. There is also a dedicated team in the Members Support desk that provides dedicated support to all members, with the team answering most queries within a 24-hour period of the query being sent.

*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.*

### **Description**

It is an obligation for the CSD under the European Code of Conduct on Clearing and Settlement to publish a table of fees, disclosure of fees is also a requirement of CSDR.

ATHEXCSD publicly discloses fees at the level of individual services. It also discloses policies on any available discounts. Information on fees and discounts is made public online and via a secure website. Changes and updates to the fees are announced at least a week and at most a month in advance via email and online, along with a resolution detailing the changes. ATHEXCSD provides detailed descriptions of its priced services, which allows for comparison across similar FMIs. Finally, ATHEXCSD discloses information on its technology and communication procedures that may affect the operating costs of the FMI.

*KEY CONSIDERATION 5:*

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

**Description**

This is the second CPMI-IOSCO PFMI assessment that ATHEXCSD has undertaken, the previous assessment was conducted in 2017. The CSD plans to perform the self-assessment every year, however, these plans have been in place since the previous CPMI-IOSCO PFMI assessment, and no self-assessments have been performed as of yet.

The information that ATHEXCSD makes available to participants includes settlement volumes and values, safekeeping values, corporate actions and failed trades. This information is made available by electronic means and is published regularly; all aforementioned statistics are published daily, while settlement and safekeeping statistics are also published on a monthly and annual basis. The CSD also makes the annual financial reports publicly available on its website.

## 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.*

Principle 24 does not apply to ATHEXCSD.