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Central Bank of Bahrain

FMIS AND PAYMENT OVERSIGHT FRAMEWORK

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Central Bank of Bahrain
P.O. Box 27, Manama, Kingdom of Bahrain
Tel: (+973) 1754 7777 | Fax: (+973) 1753 0399
www.cbb.gov.bh

The FMIs and Payment Oversight Framework is prepared by the Central Bank of Bahrain's (CBB) FMIs and Payment Oversight. The FMIs and Payment Oversight Framework is available online in PDF format under the Financial Stability section on CBB's website: https://www.cbb.gov.bh/financial-stability/

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OVERVIEW

Financial market infrastructures (FMIs) that facilitate the clearing, settlement, and recording of monetary and other financial transactions can strengthen the markets they serve and play a critical role in global and national economy. FMIs are defined in the *Principles for Financial Market Infrastructures* by *Committee on Payment and Settlement Systems (CPSS)* as the multilateral systems, inclusive of operators[1] of the systems and their participants[2], used for the purposes of clearing, settling, or recording payments, securities, derivatives, or other financial transactions.

FMIs including Systemically Important Payment Systems (SIPS), Major Retail Payment Systems (MRPS), etc. play a pivotal role in the financial system and the broader economy by enabling the smooth and efficient transfer of funds between individuals, businesses and financial institutions. In addition to ensuring financial stability by mitigating and reducing systemic risk using centralised clearing and settlement, hence, enhancing trust and confidence in the financial system.

Well-functioning FMIs improve the resiliency of payments, financial markets and the wider financial system. However, if not properly managed, they can pose significant risks to the financial system and be a potential source of contagion, particularly in periods of market stress. Therefore, Oversight is a fundamental and pivotal element to support the smooth operations of the financial sector and the efficient functioning of the overall economy. Moreover, oversight can influence the integrity strategy and reforms.

To ensure well-functioning, safety, security, efficiency, resiliency and reliability of FMIs and Payment Systems' performance, the FMIs and Payment Oversight is a Central Bank function that aims to achieve these objectives, provide effective tools to manage associated risks, assess and enforce compliance, induce change, foster innovations and market integration. By exerting this level of oversight control, the Central Bank can guarantee the smooth and uninterrupted performance of the overall FMIs and Payment landscape, eliminating any unnecessary delays or disruptions.

According to the *CPSS* in their publication *Central Bank Oversight of Payment and Settlement Systems "Oversight of payment and settlement systems is a central bank function whereby the objectives of safety and efficiency are promoted by monitoring existing and planned systems, assessing them against these objectives and, where necessary, inducing change."*

The purpose of this framework is to describe the key role, objectives, expectations, powers, standards, approach and tools of the Oversight function in response to the developments that have affected the FMIs and Payment Systems. By publishing this framework, the Central Bank of Bahrain (CBB) seeks to increase their transparency of its oversight policies.

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[1] **Operator:** Entity responsible for operating and managing the processing, clearing and settlement of payment transactions. Operations can be managed internally within the CBB, outsourced or owned and managed by external parties

[2] **Participant:** Entity that is authorised to participate and access a specific payment system to conduct or process payment transactions on behalf of its users. Participants can be banks, financial institutions, payment service providers, etc.

LEGAL BASIS OF OVERSIGHT

Article 4 of the Central Bank of Bahrain and Financial Institutions Law 2006 specifies various duties and powers of the Central Bank. They include the issuance of the national currency, the licensing, regulation and supervision of persons undertaking regulated financial services, the provision of banking services to the Government and managing the Kingdom's gold and foreign currency reserves.

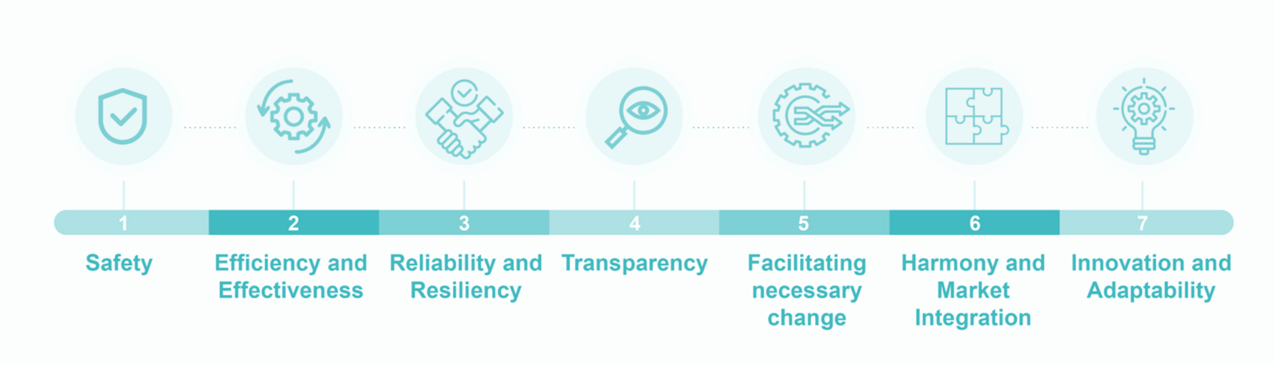
One of the main objectives stated in the Mission Statement of the CBB is *"Ensuring that the regulation and supervision of the financial sector of Bahrain meets the highest international standards, whilst minimising the direct and indirect costs of regulation on financial firms and their customers."*

The recognition of Oversight empowerment is vital for enabling the execution of relevant tools and activities to achieve the set objectives, with the primary focus being the mitigation of financial risks associated with FMIs and Payment Systems. These risks as specified in the *Principles for Financial Market Infrastructures* by *CPSS* include the following:

- ***Systemic Risk:*** *The inability of one or more participants to perform as expected could cause other participants to be unable to meet their obligations when due;*
- ***Legal Risk:*** The *risk of the unexpected application of a law or regulation, usually resulting in a loss. Legal risk can also arise if the application of relevant laws and regulations is uncertain;*
- ***Credit Risk:*** *The risk that a counterparty, whether a participant or other entity, will be unable to meet fully its financial obligations when due, or at any time in the future;*
- ***Liquidity Risk:*** *The risk that a counterparty, whether a participant or other entity, will have insufficient funds to meet its financial obligations as and when expected, although it may be able to do so in the future;*
- ***General Business Risk:*** *The risks related to the administration and operation of an FMI as a business enterprise, excluding those related to the default of a participant or another entity, such as a settlement bank, global custodian, or another FMI;*
- ***Custody and Investment Risks:*** *The risk of loss on assets held in custody in the event of a custodian's (or sub-custodian's) insolvency, negligence, fraud, poor administration, or inadequate recordkeeping. Investment risk is the risk of loss faced by an FMI when it invests its own or its participants' resources, such as collateral; and*
- ***Operational Risk:*** *The risk that deficiencies in information systems or internal processes, human errors, management failures, or disruptions from external events will result in the reduction, deterioration, or breakdown of services provided by an FMI.*

OVERSIGHT OBJECTIVES AND EXPECTATIONS

The objectives and expectations for FMIs and Payment Oversight are designed to ensure the safety, efficiency, reliability including resiliency of FMIs and Payment Systems, limiting various risks *i.e. systemic risk, credit risk, liquidity risk, operational risk, legal risk, etc.* and ultimately contribute to the well-functioning and trust in financial markets.



Objective 1 Safety: Ensuring the integrity and safety of the FMIs and Payment Systems through identifying, monitoring and managing various risks, such as credit, liquidity, operational and legal risks, to maintain the smooth functioning of the FMIs and Payment Systems and prevent disruptions that could have adverse impacts on financial stability.

Expectations: *Operators and Participants are expected to comply with relevant laws, regulations, standards and directives ensuring safety and integrity of the FMIs and Payment Systems as well as identify, assess and mitigate relevant risks.*

Objective 2 Efficiency and Effectiveness: Promoting the efficient and effective functioning of FMIs and Payment Systems including promoting prompt, reliable and affordable processing of various payment transactions, minimising processing period, delays and errors.

Expectations: *Operators and Participants are expected to ensure that payments are settled in a timely manner, minimising any delays or disruptions. In addition, they are expected to set needed measures, redundant systems, disaster recovery plans and adequate capacity to ensure smooth handling of high transaction volumes efficiently.*

Objective 3 Reliability and Resiliency: Ensuring availability, reliability and resiliency with needed recovery plans to support the timely resumption of operations in the event of any disruption.

Expectations: *Operators and Participants are expected to implement appropriate policies and procedures in addition to devoting sufficient resources to ensure that the FMIs and Payment Systems are available, reliable and resilient.*

Objective 4 Transparency: Fostering transparency contributes to promoting trust, accountability, effective oversight of FMIs and Payment Systems by helping stakeholders make informed decisions.

Expectations: *Operators and Participants are expected to be accountable and transparent in their operations including swift, timely and accurate regular reporting to oversight authorities, disclosing relevant information to stakeholders and maintaining clear lines of responsibility* *within the organisation. In addition, Operators and Participants are expected to inform the oversight authorities in case of any disruptions, changes, etc. to discuss and assess readiness and implications on overall FMIs and Payment Systems.*

Objective 5 Facilitating necessary change: Facilitating and inducing change allows for continuous improvement, adaptation and implementation of new requirements. Hence, effectively safeguarding FMIs and Payment Systems and promoting their safety, efficiency, reliability and resiliency.

Expectations: *Operators and Participants including relevant stakeholders are expected to demonstrate a commitment to best practices, guidelines and initiatives by the Oversight in addition to actively engage in sharing insights, knowledge and experiences to foster innovation, address emerging risks and adopt enhancements to the security, efficiency, and accessibility of FMIs and Payment Systems.*

Objective 6 Harmony and Market Integration: In order to promote and achieve consistency, standardisation and interoperability, the Oversight catalyses the FMIs and Payments landscape, facilitates innovation and competition, aligns regulatory frameworks, fosters cooperation among stakeholders and promotes interoperability across markets.

Expectations: *Operators and Participants are expected to embrace harmonising regulatory approaches, adopt interoperability and emerging technologies, encourage the development of new solutions and participate in industry initiatives that promote harmony and market integration in the FMIs and Payments landscape.*

Objective 7 Innovation and Adaptability: Great importance is given to the role of innovation in the FMIs and Payment Systems. New technologies and rapid agility contribute to enhancing the efficiency, effectiveness including resiliency of FMIs and Payment Systems.

Expectations: *Operators and Participants are expected to continuously thrive to enhance their operations, risk management and compliance practices. Nevertheless, appropriate risk management and control frameworks should be established by Operators and Participants to mitigate potential risks associated with innovation.*

PRINCIPLES FOR EFFECTIVE OVERSIGHT

The Committee on Payment and Settlement Systems (CPSS) under the Bank for International Settlements (BIS) laid down principles to help Central Banks organise and conduct effective oversight. These general principles are based on and are consistent with *CPSS Core principles for systemically important payment system s (2001)* and *Policy issues for central banks in retail payments*, *the CPSS-IOSCO Recommendations for securities settlement systems* and *Recommendations for central counterparties* and the *IMF Code of good practices on transparency in monetary and financial policies*.

The FMIs and Payment Oversight within the CBB recognises and adopts these General Oversight Principles as outlined below:

General Oversight Principle	FMIs and Payment Oversight Practice
General Oversight Principle A: Transparency *Central banks should set out publicly their oversight policies, including the policy requirements or standards for systems and the criteria for determining which systems these apply to.*	This framework sets out the different aspects of FMIs and Payment Oversight needed for different stakeholders to understand and fulfil these requirements.
General Oversight Principle B: International Standards *Central banks should adopt, where relevant, internationally recognised standards for payment and settlement systems.*	The Oversight of FMIs and Payments is based on the Implementation of two (2) core sets of principles by the Committee on Payment and Settlement Systems (CPSS), which are: Principles for Financial Market Infrastructures (PFMIs) and Principles for Effective Oversight in addition to others published by other international bodies as it deems applicable.
General Oversight Principle C: Effective Powers and Capacity Central banks should have the powers and capacity to carry out their oversight responsibilities effectively.	Having appropriate powers, oversight can enforce compliance with regulatory requirements including standards and achieve relevant oversight objectives: i. Power to determine and apply standards as it deems relevant to maintaining safety, efficiency and resiliency of FMIs and Payment Systems; ii. Power to request information that is periodic and/or Ad-hoc/thematic regarding operations of FMIs and Payment Systems; iii. Power to Access information related to any FMIs and Payment Systems with the Operators, Participants and/or relevant stakeholders; iv. Power to enter and inspect any premises where an FMI or Payment System is operated;

	v. Power to carry out onsite and/or offsite Inspection on an FMI, Payment System or Participants where necessary; and vi. Power to guide and induce change pertaining to the conduct of operations relating to FMIs and Payment Systems.
General Oversight Principle D: Consistency *Oversight standards should be applied consistently to comparable payment and settlement systems, including systems operated by the central bank.*	Ensuring consistency and coherence in oversight towards different FMIs and Payment Systems. The CBB, being the regulator of all FMIs and Payment Systems, is overseeing CBB-operated FMIs as well as Financial Institutions' operated Payment Systems using the same approach, principles, etc. In cases where a conflict of interest between the CBB's Oversight and Operator functions may arise, the CBB manages the potential conflict through: i. Transparency of policy application, including the application of consistent expectations on all FMIs and Payment Systems i.e. *CBB-operated FMIs as well as Financial Institutions' operated Payment Systems*; ii. Independent reporting lines where the Oversight and Operator functions reside in different Directorates within the CBB and each has a separate reporting line to the Senior Management.
General Oversight Principle E: Cooperation with other authorities *Central banks, in promoting the safety and efficiency of payment and settlement systems, should cooperate with other relevant central banks and authorities.*	Throughout the oversight process, constructive cooperation with other national and international authorities is carried out to ensure effective interaction on the safety, efficiency and resiliency of FMIs and Payment Systems domestically, regionally and globally.

RESPONSIBILITIES OF OVERSIGHT

As specified in the Principles for Financial Market Infrastructures by CPSS, five (5) responsibilities are expected from the Central Banks, market regulators and other relevant authorities for FMIs. These responsibilities are listed below:

i. **Responsibility A – Regulation, supervision and oversight of FMIs** – *FMIs should be subject to appropriate and effective regulation, supervision, and oversight by a central bank, market regulator, or other relevant authority.*

ii. **Responsibility B – Regulatory, supervisory, and oversight powers and resources** –*Central Banks, market regulators, and other relevant authorities should have the powers and resources to carry out effectively their responsibilities in regulating, supervising, and overseeing FMIs.*

iii. **Responsibility C – Disclosure of policies with respect to FMIs** – *Central Banks, market regulators, and other relevant authorities should clearly define and disclose their regulatory, supervisory, and oversight policies with respect to FMIs.*

iv. **Responsibility D – Application of the Principles for FMIs** – *Central Banks, market regulators, and other relevant authorities should adopt the CPSS-IOSCO PFMIs and apply them consistently.*
v. **Responsibility E – Cooperation with other authorities** – *Central Banks, market regulators, and other relevant authorities should cooperate with each other, both domestically and internationally, as appropriate, in promoting the safety and efficiency of FMIs.*

SCOPE OF OVERSIGHT

Designating FMIs and Payment Systems that are overseen is based on specific criteria that directly assess the importance of FMIs and Payment Systems and its impact on safety, efficiency, resiliency and reliability of the overall financial system. Hence, the intensity and depth of Oversight varies and is proportionate according to the assessment undertaken and conducted. The criteria is as follow:

i. **Volume and value of transactions:** Higher transaction volumes and values indicate a greater reliance on the FMI or Payment System, therefore a greater potential impact on the financial system in the event of a disruption.
ii. **Availability of substitutes:** The potential impact of a disruption is greater when there are fewer substitutes available for making payments.
iii. **Time Criticality:** The more time-critical payments are in a specific FMI or Payment System, the larger the potential impact if there is a system disruption.
iv. **Interdependencies:** A payment system that is dependent on other systems has a greater capacity to affect or be affected by those systems on which it is dependent in the event of a disruption.

FMIs and Payment Systems

Based on the above criteria, the FMIs and Payment Systems, which are multilateral systems inclusive of the Operator and Participants, are categorised as follow:

- **Financial Market Infrastructures (FMIs)** are multilateral systems among participating institutions, including the Operators of the systems, used for the purposes of clearing, settling or recording payments, securities, derivatives or other financial transactions. FMIs are critical to helping Central Banks conduct monetary policy and maintain financial stability.
- **Systemically Important Payment Systems (SIPS)** are infrastructures that which have the potential to trigger or transmit systemic disruptions; this includes, among other things, systems that are the sole payment system in a jurisdiction or the principal system in terms of the aggregate value of payments, and systems that mainly handle time-critical, high-value payments. Failure of these systems may jeopardise the functioning of the entire economy.
- **Major Retail Payment Systems (MRPS)** are the retail payment systems with various methods that are critical for economic activities, whose disruptions or problems could have the potential to affect public interests and public confidence.
- **Retail Payment Systems (RPS)** are funds transfer systems that typically handle a large volume of relatively low-value payments.

Operational Resilience

As defined by the *Basel Committee on Banking Supervision* in the *Principles for Operational Resilience “Operational Resilience is the ability of a bank to deliver critical operations through disruption. This ability enables a bank to identify and protect itself from threats and potential failures, respond and adapt to, as well as recover and learn from disruptive events in order to minimise their impact on the delivery of critical operations through disruption.”*

In the same document, the principles are organised across the following seven categories: governance; operational risk management; business continuity planning and testing; mapping of interconnections and interdependencies of critical operations; third-party dependency management; incident management; and resilient information and communication technology (ICT), including cyber security.

Operational resilience plays a crucial role in ensuring the smooth functioning of FMIs and Payment Systems reflecting on the financial stability of the country and trust in the overall financial system. With the increasing reliance on technology and interconnectedness, it has become vital to assess and enhance the resilience of these systems to withstand potential disruptions and threats.

Resilience is ensured through constant monitoring of the technical, operational and financial viability of the entities to ensure continuous system viability. Measures are laid out to ensure that the entities monitor payment and settlement flows, have enough early warning devices guarding against abnormalities across the payment circuits and have well-tested emergency procedures in place. This enables the entities to operate smoothly at all points of their process and to be resilient to disturbances.

It is crucial to highlight that the level of cyber resilience i.e. *FMI’s ability to anticipate, withstand, contain, and rapidly recover from a cyberattack*, contributes to an FMI’s operational resilience and the overall resilience of the financial system and the broader economy as explained by CPMI and IOSCO in Guidance on Cyber Resilience for FMIs.

OVERSIGHT APPROACH

Pacing the rapid changes in the global financial sector, the FMIs and Payment Oversight adapts a futuristic vision with a pro-active approach towards the emerging innovations.
The approach for Oversight of FMIs and Payment Systems is based on multiple factors to draw balance between promoting innovation, ensuring financial stability, protecting consumers and maintaining the integrity of the FMIs and Payments Ecosystem. It should be adaptable, risk-based, collaborative and forward-looking, while also being accountable and continuously improved. Below are the main factors determining the Oversight approach:

A. **Transparent and Accountable:** It is essential to establish a transparent and accountable oversight approach to ensure objectives and expectations met within the anticipated scope and time. Therefore, clear mandates, independence, open communication and appropriate resources are mandatory to carry out relevant responsibilities and achieve objectives and expectations.

B. Principle-based: The oversight approach is based on principles providing guidance to achieve set objectives, allowing for flexibility and adaptability while thriving for innovation and market-driven solutions. The Oversight approach is based on the Implementation of two (2) core sets of principles by the Committee on Payment and Settlement Systems (CPSS) that set out the foundation for Oversight. These principles are: Principles for Financial Market Infrastructures (PFMIs) and Principles for Effective Oversight. Additionally, principles published by other international bodies can be adopted as it deems applicable.

C. Risk-based: In order to maintain the safety and resiliency of the FMIs and Payment Systems, a risk-based approach provides proactive and forward-looking risk management i.e. *anticipating and addressing current and emerging risks and vulnerabilities*, allowing for efficient prioritisation and effective oversight measures.

D. Collaborative and Cooperative: Collaborations and cooperation among Overseer, FMIs and Payment System Operators, Financial Institutions and other stakeholders can help ensure consistent and holistic Oversight. The collaborations and cooperations are extended in the CBB with different Directorates and Units, national authorities and international bodies.

E. Dynamic and Flexible: Actively engage with the overseen entities to ensure that oversight activities are responsive and tailored to the specific needs and circumstances of the entities being regulated and continuously improve based on lessons learned, feedback from stakeholders and positive changes in the FMIs and Payments landscape.

OVERSIGHT TOOLS AND ACTIVITIES

The Oversight uses one or more of the following tools when conducting the Oversight activities:

Collection of Data

The data may be collected from various sources such as:

- **System Database:** Statistical data using various methods and formulas generated from the systems, whether those operated within the CBB or by a third party where applicable;
- **Data from Participants:** Participants may be requested to answer questionnaires, comments, etc. on consultations with their views and suggestions;
- **Periodic Reporting:** The FMIs and Payment Oversight may request participants to provide certain reports or feedback regarding certain issues thematically and periodically;
- **Surveys:** The FMIs and Payment Oversight may conduct surveys on FMIs and Payments eco-system; and
- **Constant Monitoring:** As the FMIs and Payment Oversight constantly monitors patterns, any unusual changes, abnormalities or unique incidents are further investigated and reported accordingly.

Inspections

- **On-Site Inspections:** Onsite visits to Operators and/or Participants in order to measure their compliance highlight deficiencies and recommend alignment and/or enhancements. Hence, inspection carried out by the FMIs and Payment Oversight are based on PFMIs concentrating on the objectives of Oversight i.e. *safety, efficiency, resiliency and reliability of FMIs and Payment eco-system*.

- **Off-Site Inspections:** Thematic request of information to validate and ensure continuous compliance of Operators and/or Participants with CBB Law, Regulations, Policies, Directives and Circulars.

Analysis and Reporting

Analysis involves systematically examination of collected data and information to identify trends, patterns, anomalies and potential risks associated with the functioning of FMIs and Payment Systems. It involves applying statistical including qualitative techniques to extract meaningful insights and draw conclusions. The findings are viewed in multiple perspectives to gain a holistic understanding of the issue to help make informed decisions where improvements or corrective measures may be required based on market insights and feedback given. Reports are periodic and on thematic basis.

Assessments

Review risk assessments conducted by Operators and/or Participants based on PFMIs in order to identify key risks, areas for improvement, establish regulatory expectations and take appropriate actions to ensure the safety, efficiency reliability and resiliency of FMIs and Payment systems.

Research

Research is a crucial component of FMIs and Payment Oversight as it allows regulators to stay ahead of potential risks and challenges. Conducting in-depth studies and analysis of numerous aspects helps in identifying potential vulnerabilities, emerging threats, areas of weakness within the current infrastructures, best practices and potential benefits associated with new innovations. This allows to develop appropriate risk mitigation strategies, implement necessary safeguards from potential disruptions, benefit from cost savings, faster transaction processing, improved customer experience and increased overall efficiency of FMIs and Payment Systems. Moreover, by studying successful approaches implemented by other jurisdictions or industry leaders, Oversight can adopt these best practices and ensure that Oversight measures are robust and effective.

Catalyst Role

Encouraging and inducing change is one of the pivotal and crucial elements for effective oversight. It varies significantly ranging from moral suasion, voluntary agreements and public statements through to statutory powers to enforce oversight decisions. In addition, a great emphasis is given to the power of fostering harmony and market integration in the FMIs and Payments landscape. Accordingly, being a Catalyst is one of the powerful tools that Oversight uses to develop and maintain guidance and co-ordination for the development of an integrated and competitive market for the FMIs and Payments.

Cooperative Arrangements and Synergies

Due to the nature of interconnectedness and interdependencies of FMIs, Payment Systems and its participants aiming to avoid the possibility of gaps, inefficiency, duplication and inconsistencies in the oversight function, effective co-operation between authorities is vital. Oversight is actively communicati ng with Internal Directorates and Units within the CBB as well as national and international authorities and organisations. Oversight is also involved in a number of Internal and External Committees to effectively perform Oversight and fill any regulatory gaps that may have adverse effect on the safety, efficiency, reliability and resiliency of FMIs and Payments.

THE FUTURE OF FMIS AND PAYMENT SYSTEMS OVERSIGHT

The future of FMIs and Payment Systems is expected to continuously expand in scope and be driven by many developments that are likely to shape the future of FMIs and Payments landscape. Hence, the Oversight function is highly influenced by these developments, trends and standards. A number of these factors are explained below:

FMIs and Payments Innovation

The rapid pace of technological innovation including real-time FMIs and Payment Systems shapes the future of how people interact with these changes using different methods and technologies. With all the opportunities that it brings, it also poses new risks and vulnerabilities, creating regulatory gaps and ambiguities. The Oversight is drawing the balance between fostering innovation in the FMIs and Payments area as well as adequately identifying, addressing and mitigating related risks*.

Cybersecurity and resiliency

The Payments ecosystem has become increasingly digitised, increasing the risk of cyber-attacks and operational disruptions. It is crucial for oversight to stay ahead of such pace, enhancing cybersecurity measures and ensuring the resilience of FMIs and Payment Systems.

Interoperability

With rising methods of payments nationally and internationally, it is vital to account for interoperability being an important factor for growth and adaptation.

With all these challenges, Oversight is actively studying, assessing and preparing for upcoming projects and challenges in the FMIs and Payments ecosystem not only to foster innovation of new payments but also to enhance, upgrade current and existing FMIs and Payment Systems.

ANNEXURES

ANNEXURE 1: CENTRAL BANK OF BAHRAIN'S FMIS AND PAYMENT OVERSIGHT FRAMEWORK

Definition of the FMIs and Payment Oversight		
Central Bank function whereby the objectives of safety and efficiency are promoted by monitoring existing and planned Systems, assessing them against these objectives by encouraging and where necessary, inducing change.		
Objectives		**Approach**
Objective 1 Safety		Transparent and Accountable
Objective 2 Efficiency and Effectiveness		Principle-based
Objective 3 Reliability and Resiliency		Risk-based
Objective 5 Facilitating necessary change		Collaborative and Cooperative
Objective 6 Harmony and Market Integration		Dynamic and Flexible
Tools	**Principles for Effective Oversight**	**Scope**
Collection of data	*Principle "A"* Transparency	Financial Market Infrastructures (FMIs)
Inspections	*Principle "B"* International Standards	Systematically Important Payment Systems (SIPS)
Analysis and Reporting	*Principle "C"* Effective powers and capacity	Major Retail Payment System (MRPS)
Assessments	*Principle "D"* Consistency	Retail Payment System (RPS)
Research	*Principle "E"* Co-operation with other authorities	Others
Catalyst Role		
Cooperative Arrangements and Synergies		
Core Principles for Oversight		
The Principles for Financial Market Infrastructures were developed jointly by the Bank for International Settlements Committee on Payment and Settlement Systems and the International Organisation of Securities Commissions (IOSCO)		
Principle 1 Legal Basis	**Principle 9** Money Settlements	**Principle 17** Operational Risk
Principle 2 Governance	**Principle 10** Physical Deliveries	**Principle 18** Access and Participation Requirements
Principle 3 Framework for the Comprehensive Management of Risks	**Principle 11** Central Securities Depositories	**Principle 19** Tiered Participation Arrangements
Principle 4 Credit Risk	**Principle 12** Exchange-of-Value Settlement Systems	**Principle 20** FMI Links
Principle 5 Collateral	**Principle 13** Participant-Default Rules and Procedures	**Principle 21** Efficiency and Effectiveness
Principle 6 Margin	**Principle 14** Segregation and Portability	**Principle 22** Communication Procedures and Standards
Principle 7 Liquidity Risk	**Principle 15** General Business Risk	**Principle 23** Disclosure of Rules, Key Procedures, and Market Data
Principle 8 Settlement Finality	**Principle 16** Custody and Investment Risks	**Principle 24** Disclosure of Market Data by Trade Repositories
However, due to variations among different FMIs and across different countries, all twenty-four (24) Principles do not necessarily apply to the FMIs.		
Other Standards		
PFMIs, Committee on Payment and Settlement Systems (CPSS)[3], International Organisation of Securities Commissions (IOSCO), Committee on Payments and Market Infrastructure (CPMI) – BIS, Various International Organisation for Standardisation (ISO), The Payment Card Industry Data Security Standard (PCI DSS) and Financial Stability Board (FSB).		

[3] A committee made up of the Central Banks of G10 countries that monitors developments in payment, settlement and clearing systems in an attempt to contribute to efficient payment and settlement systems, and build strong market infrastructure. The CPSS was created in 1990, and its secretariat is hosted by the Bank for International Settlements (BIS).

APPENDICES

APPENDIX 1: PRINCIPLES FOR FINANCIAL MARKET INFRASTRUCTURES[4]

Principle 1 Legal Basis: A FMI should have a well-founded, clear, transparent and enforceable legal basis for each material aspect of its activities in all relevant jurisdictions.

Principle 2 Governance: A FMI should have governance arrangements that are clear and transparent, promote the safety and efficiency of the FMI and support the stability of the broader financial system, other relevant public interest considerations and the objectives of relevant stakeholders.

Principle 3 Framework for the Comprehensive Management of Risks: A FMI should have a sound risk-management framework for comprehensively managing legal, credit, liquidity, operational and other risks.

Principle 4 Credit Risk: A FMI should effectively measure, monitor and manage its credit exposure to participants and those arising from its payment, clearing and settlement processes.

Principle 5 Collateral: A FMI that requires collateral to manage its or its participants' credit exposure should accept collateral with low credit, liquidity and market risks. A FMI should also set and enforce appropriately conservative haircuts and concentration limits.

Principle 6 Margin: A Central Counterparty (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 7 Liquidity Risk: A FMI should effectively measure, monitor and manage its liquidity risk.

Principle 8 Settlement Finality: A FMI should provide clear and certain final settlement, at a minimum by the end of the value date. Where necessary or preferable, a FMI should provide final settlement intraday or in real time.

Principle 9 Money Settlements: A FMI should conduct its money settlements in central bank money where practical and available. If central bank money is not used, a FMI should minimise and strictly control the credit and liquidity risk arising from the use of commercial bank money.

Principle 10 Physical Deliveries: A 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 11 Central Securities Depositories (CSD): 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 12 Exchange-of-Value Settlement Systems: If a 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 13 Participant-Default Rules and Procedures: A 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 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.

[4] From CPMI-IOSCO's "*Principles for Financial Market Infrastructures*" published by BIS during April, 2012.

Principle 15 General Business Risk: A 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 16 Custody and Investment Risks: A FMI should safeguard its own and its participants' assets and minimise the risk of loss on and delay in access to these assets. A FMIs investments should be in instruments with minimal credit, market and liquidity risks.
Principle 17 Operational Risk: A 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.
Principle 18 Access and Participation Requirements: A FMI should have objective, risk-based and publicly disclosed criteria for participation, which permit fair and open access.
Principle 19 Tiered Participation Arrangements: A FMI should identify, monitor and manage the material risks to the Financial Market Infrastructure arising from tiered participation arrangements.
Principle 20 Financial Market Infrastructure Links: A FMI that establishes a link with one or more Financial Market Infrastructure s should identify, monitor and manage link-related risks.
Principle 21 Efficiency and Effectiveness: A FMI should be efficient and effective in meeting the requirements of its participants and the markets it serves.
Principle 22 Communication Procedures and Standards: A 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 23 Disclosure of Rules, Key Procedures and Market Data: A 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 24 Disclosure of Market Data by Trade Repositories (TR): A TR should provide timely and accurate data to relevant authorities and the public in line with their respective needs.

APPENDIX 2: PRINCIPLES FOR EFFECTIVE OVERSIGHT[5]

Principle "A" Transparency: Central banks should set out publicly their oversight policies, including the policy requirements or standards for systems and the criteria for determining which systems these apply to.
Principle "B" International Standards: Central banks should adopt, where relevant, internationally recognised standards for payment and settlement systems to enhance it.
Principle "C" Effective powers and capacity: Central banks should have the powers and capacity to carry out their oversight responsibilities effectively.
Principle "D" Consistency: Oversight standards should be applied consistently to comparable payment and settlement systems, including systems operated by the Central Bank.
Principle "E" Co-operation with other authorities: Central banks, in promoting the safety and efficiency of payment and settlement systems, should co-operate with other relevant central banks and authorities,

[5] Committee on Payment and Settlement Systems (CPSS)

APPENDIX 3: PRINCIPLES FOR OPERATIONAL RESILIENCE

Principle 1 Governance: Banks should utilise their existing governance structure to establish, oversee and implement an effective operational resilience approach that enables them to respond and adapt to, as well as recover and learn from, disruptive events in order to minimise their impact on delivering critical operations through disruption.

Principle 2 Operational Risk Management: Banks should leverage their respective functions for the management of operational risk to identify external and internal threats and potential failures in people, processes and systems on an ongoing basis, promptly assess the vulnerabilities of critical operations and manage the resulting risks in accordance with their operational resilience approach.

Principle 3 Business Continuity Planning and Testing: Banks should have business continuity plans in place and conduct business continuity exercises under a range of severe but plausible scenarios in order to test their ability to deliver critical operations through disruption.

Principle 4 Mapping Interconnections and Interdependencies: Once a bank has identified its critical operations, the bank should map the internal and external interconnections and interdependencies that are necessary for the delivery of critical operations consistent with its approach to operational resilience.

Principle 5 Third-Party Dependency Management: Banks should manage their dependencies on relationships, including those of, but not limited to, third parties or intragroup entities, for the delivery of critical operations.

Principle 6 Incident Management: Banks should develop and implement response and recovery plans to manage incidents18 that could disrupt the delivery of critical operations in line with the bank's risk appetite and tolerance for disruption. Banks should continuously improve their incident response and recovery plans by incorporating the lessons learned from previous incidents.

Principle 7 ICT including Cyber Security: Banks should ensure resilient ICT including cyber security that is subject to protection, detection, response and recovery programmes that are regularly tested, incorporate appropriate situational awareness and convey relevant timely information for risk management and decision-making processes to fully support and facilitate the delivery of the bank's critical operations.

مصرف البحرين المركزي
Central Bank of Bahrain