

THE WORLD BANK FAST PAYMENTS TOOLKIT

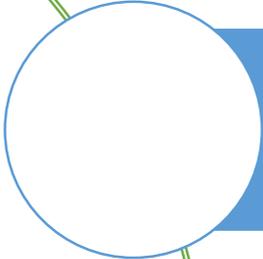
DECEMBER 10, 2021

HOLTI BANKA

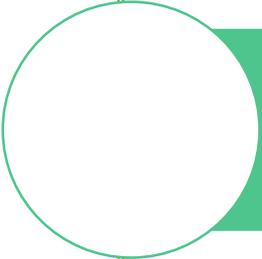
Financial Sector Specialist, Payment Systems Development Group



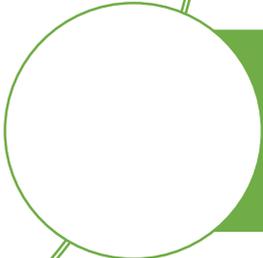
FAST PAYMENT SERVICE – WORKING DEFINITION



Supported by 24/7/365 availability



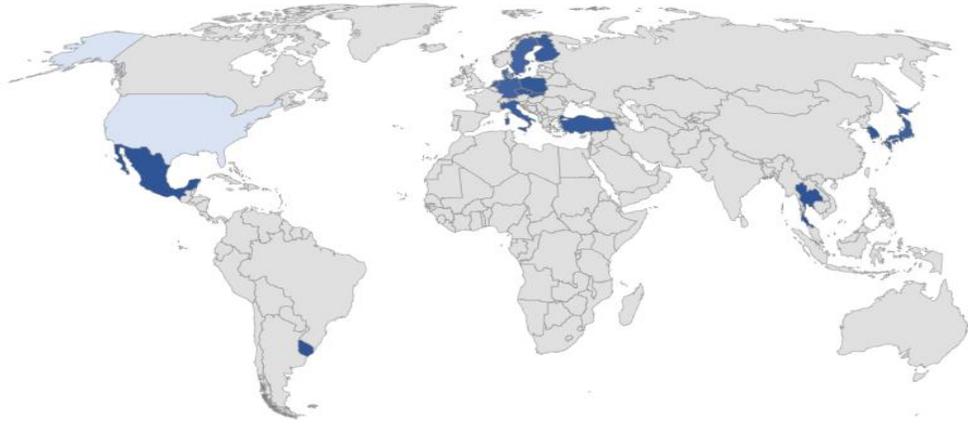
Allows for instant crediting of the payee's account



Characterized by finality and irrevocability

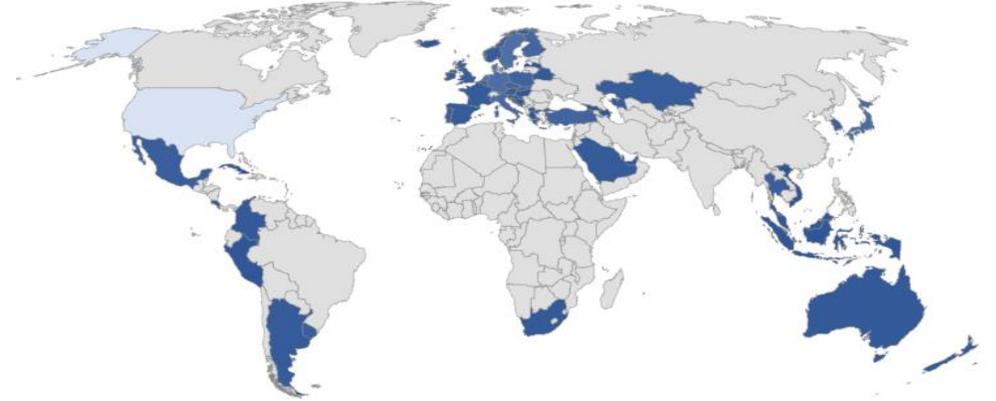
FAST PAYMENT SYSTEMS AND RTGS SYSTEMS ADOPTION RATES

RTGS System Implementations up to 1995

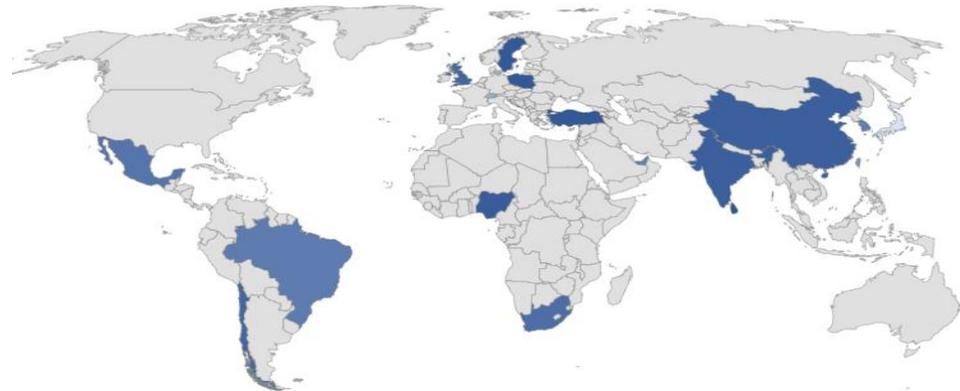


69% of implementations have taken place during the 1995-2001 period

RTGS System Implementations up to 2001



Fast Payment System Implementations up to 2013

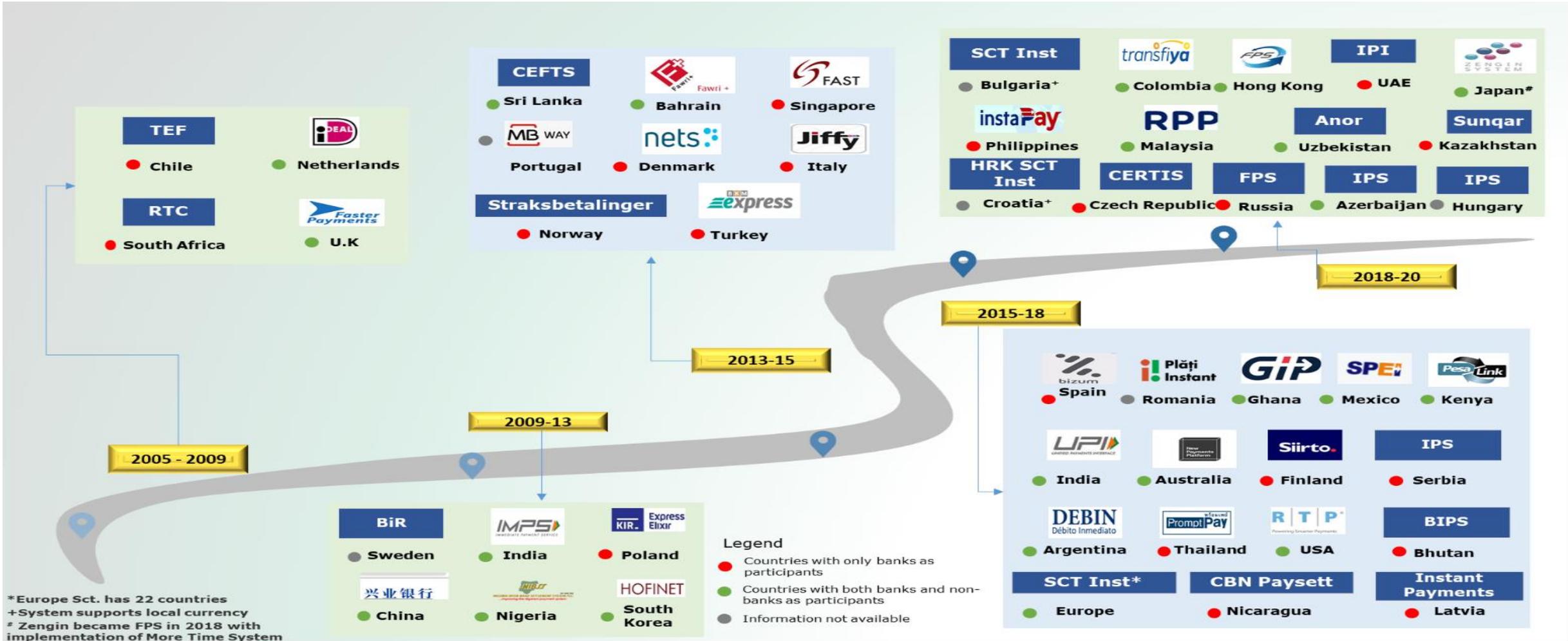


66% of implementations have taken place during the 2013-2020 period

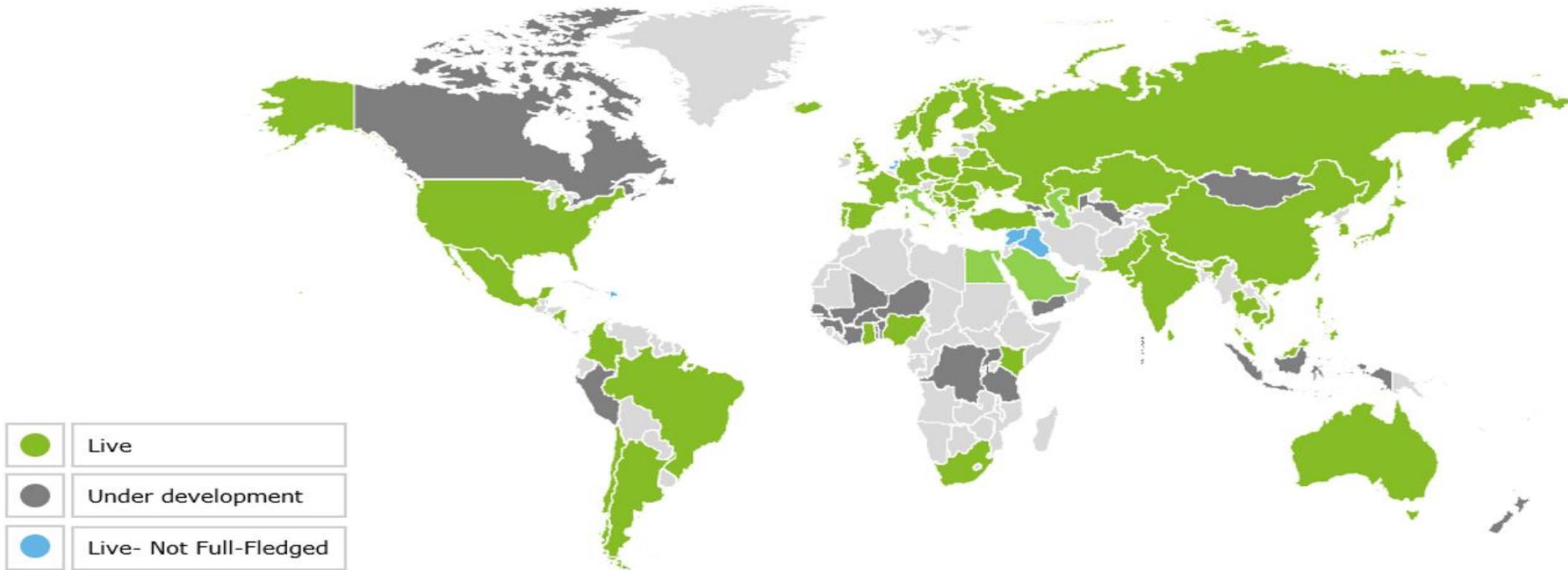
Fast Payment System Implementations up to 2020



FAST PAYMENTS – EVOLUTION



FAST PAYMENT SYSTEMS (FPS) – GLOBAL SNAPSHOT



Note: SCT Inst and BCEAO have been considered as a single jurisdiction

DRIVERS OF FAST PAYMENTS ADOPTION

Active Role of Central Banks

- The increased involvement of central banks in the fostering development, governance and operation.

Financial Inclusion

- Reaching unserved communities at a low cost.

Expectations from Consumers and Businesses

- In an era where all types of communications and access to information is real-time, there is pressure for this concept to be applied in the field of payments. The COVID-19 pandemic has further highlighted the need.

New Use Cases and Services

- Additional use cases and overlay services as well as utilization of APIs, QR codes and Request to Pay.

Payment System Fundamentals + New Technology Standards

- The emergence of new industry standards and technologies has made the implementation of Fast Payment Systems more feasible and enhanced interoperability (ISO20022).

TOOLKIT COMPONENTS

COMPONENT 1: CASE STUDIES



Analysis Parameters

- Settlement model for PSPs
- Ecosystem service providers
- Transaction limit
- Payment speed
- Operating hours
- User charges
- Messaging format
- Types of PSPs participating in the system

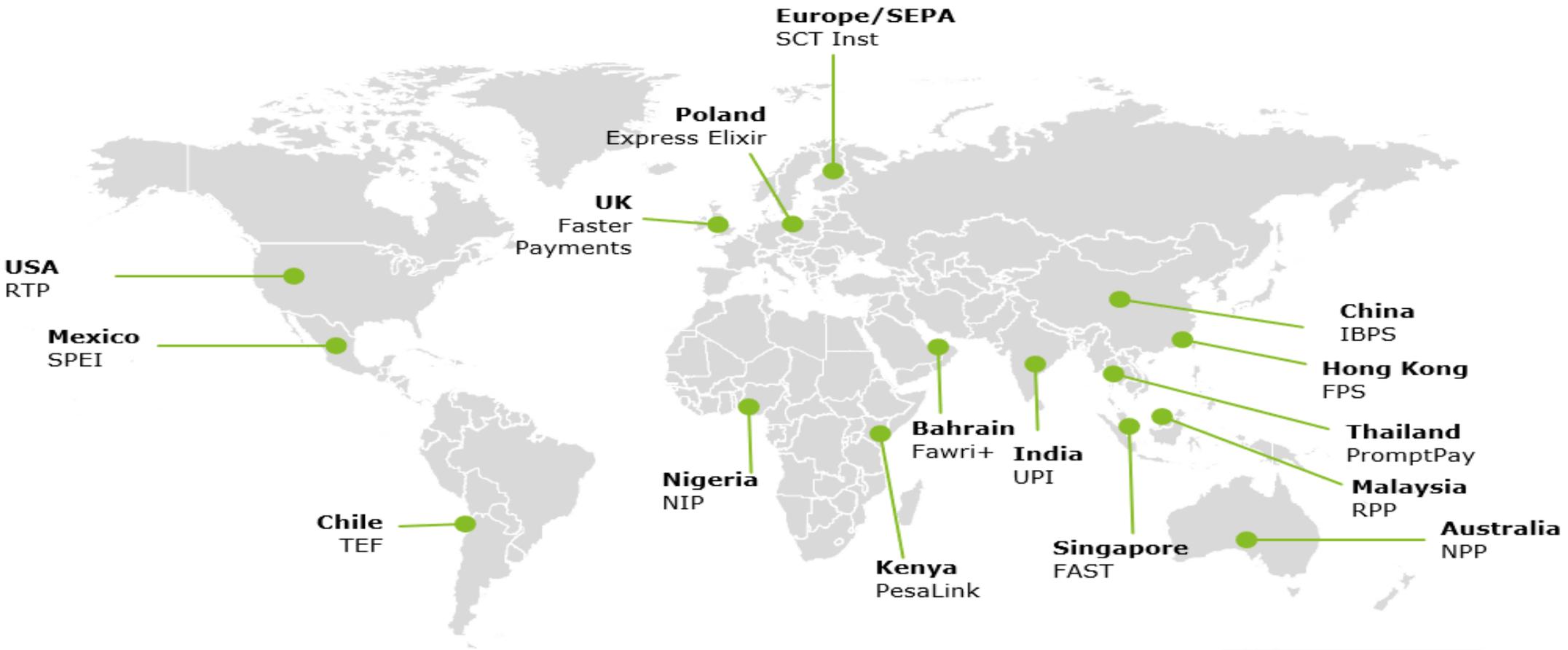
Analysis Parameters

- Ownership and oversight
- Ecosystem service providers
- Transaction limits
- Aliases
- Access channels
- User charges
- Infrastructure setup
- Clearing and settlement
- Messaging format
- Open APIs
- Authentication
- Use cases

Analysis Parameters

- Detailed questionnaires prepared for the interviews with system operator, system participants, and regulators

COMPONENT 1: COUNTRIES/JURISDICTIONS FOR CASE STUDIES



COMPONENT 2: TECHNICAL FOCUS NOTES

Features and Use Cases

- Customer authentication
- Proxy identifiers
- QR codes
- Cross-border payments

Technical Design

- Messaging standards
- APIs
- Interoperability aspects
- Future of fast payments

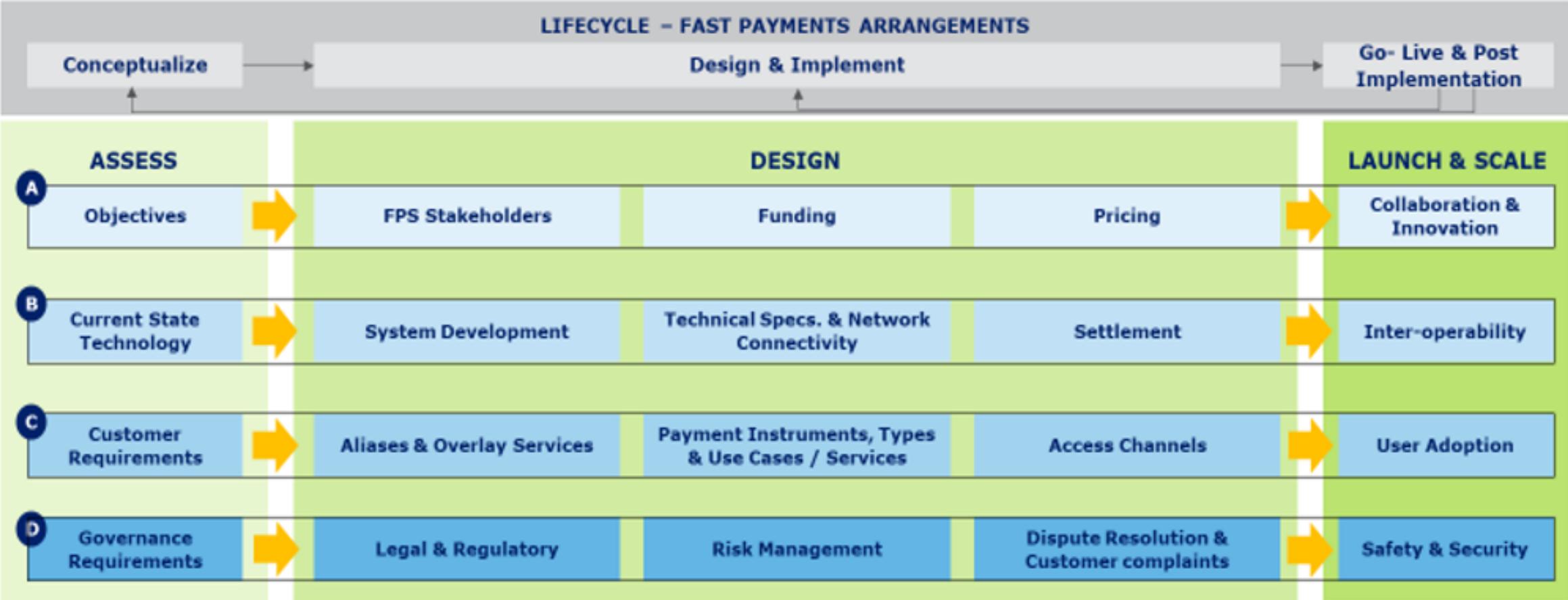
Implementation

- Pricing structure
- Fraud risks
- Dispute handling
- Consumer protection

Governance and Oversight

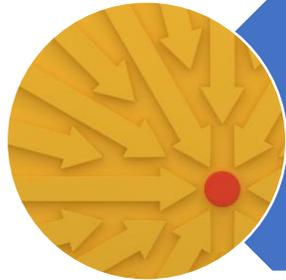
- Scheme rules
- Access aspects
- Oversight aspects
- Ownership aspects

COMPONENT 3: MAIN REPORT/FRAMEWORK WITH SYNTHESIZED LESSONS, GUIDANCE AND CONSIDERATIONS



COMPONENT 4: THE WEBSITE/REPOSITORY

<https://fastpayments.worldbank.org>



•The goal is to track all fast payment systems implemented around the world on the dedicated website and provide a snapshot of system details in a comparable and downloadable way.



•The task of populating the tracker with information across all fast payment system implementations is still ongoing.



•All material produced as part of the toolkit will be featured on the website.

Welcome to the World Bank Fast Payments Toolkit!

Fast payments make funds immediately available to the payee and can be used around-the-clock, on a 24/7 basis. Jurisdictions around the world have implemented or are examining the feasibility of implementing fast payments. The

[Read more](#)

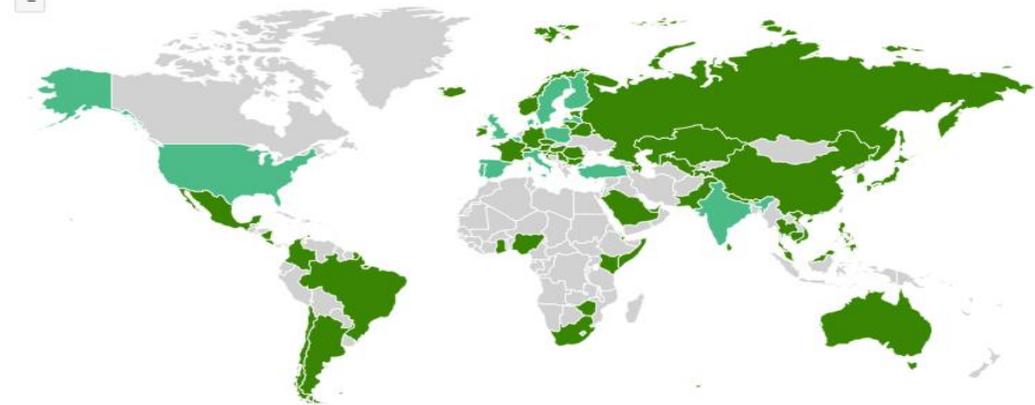
BY JURISDICTION

BY REGION

BY INCOME

Select Jurisdiction

[Click here to download the dataset](#)



Jurisdictions using SEPA Instant Credit Transfer: Austria, Belgium, Bulgaria, Croatia, Cyprus, Denmark, Estonia, Finland, France, Germany, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Monaco, Netherlands, Poland, Portugal, Slovenia, Spain, Sweden, United Kingdom.

The following jurisdictions, colored in lighter green on the map, have access to more than one fast payment systems: China, Denmark, Finland, India, Italy, Latvia, Poland, Portugal, Spain, Sweden, Turkey, United Kingdom, United States.

SOME SPECIFIC DESIGN AND IMPLEMENTATION ASPECTS OF FAST PAYMENTS FROM THE CASE STUDIES AND MAIN REPORT

SETTLEMENT MODELS

Jurisdiction		Deferred Net Settlement	Real Time Settlement
Australia			✓
Bahrain		✓	
Chile		✓	
EU			✓
China		✓	
Hong Kong			✓
India		✓	
Kenya		✓	

Jurisdiction		Deferred Net Settlement	Real Time Settlement
Malaysia		✓	
Mexico			✓ (Hybrid)
Nigeria		✓	
Poland		✓	
Singapore		✓	
Thailand		✓	
UK		✓	
USA			✓

ACCESS MODELS TO FAST PAYMENT SYSTEMS

•PSPs can connect as indirect participants. In such cases they sign a commercial agreement with bank that is a direct participant in order to use the payments infrastructure. (e.g., PromptPay (Thailand), PesaLink (Kenya) and FPS (Hong Kong)).

Eligible non-bank PSPs can be direct participants and fulfill their settlement obligations through their own settlement account at the central bank. (e.g., RPP (Malaysia) and SPEI (Mexico)).

•Non-bank PSPs can connect directly to the infrastructure but fulfill their settlement obligations through a commercial bank.

Most jurisdictions studied do not mandate participation of banks but have seen a positive uptake from them.

In addition, some other parties are granted “access” to the system through a third-party account initiation mode, like in the case of UPI in India.

ACCESS CHANNELS IN FAST PAYMENTS

Jurisdiction	Internet / Mobile Banking	Branch Banking	Advanced Channels	Terminals (ATMs/ Kiosks)	USSD	Agent Networks	Jurisdiction	Internet / Mobile Banking	Branch Banking	Advanced Channels	Terminals (ATMs/ Kiosks)	USSD	Agent Networks
Australia 	✓		✓ (QR Code)				Malaysia 	✓	✓	✓ (QR Code)	✓		
Bahrain 	✓	✓	✓ (QR Code)				Mexico 	✓	✓	✓ (QR Code, NFC)	✓		
Chile 	✓						Nigeria 	✓	✓	✓ (POS)	✓	✓	✓
EU 	✓	✓	✓ (QR Code)	✓			Poland 	✓	✓				
China 	✓	✓	✓ (QR Code)				Singapore 	✓	✓	✓ (QR Code)	✓		
Hong Kong 	✓		✓ (QR Code)				Thailand 	✓	✓	✓ (QR Code)	✓		
India 	✓	✓	✓ (QR Code, NFC)	✓	✓	✓	UK 	✓	✓	✓ ¹			
Kenya 	✓	✓		✓	✓	✓	USA 	✓	✓		✓		

¹QR code under development

QR CODES AND REQUEST-TO-PAY FEATURE

- Recent advancements in the payments landscape have been towards channels that support contactless and seamless checkout experiences, like QR codes. These are becoming increasingly common, both among merchants and customers. QR codes are classified based on two broad dimensions, i.e., type of information (static or dynamic) and the presenter of code (i.e., merchant or consumer).

- QR codes can also facilitate interoperability when they are standardized. Jurisdictions like Australia, Bahrain, Hong Kong, Singapore and Thailand have based their standard on EMVCo's merchant-presented QR specifications as these are being adopted by a growing number of operators and participants. In India, the Bharat QR and UPI QR are interoperable, and customers can pay as per their will, regardless of the app they are using.

- In Thailand, merchant payments are allowed in PromptPay through the request-to-pay functionality and via QR codes.

- Australia (NPP) has published its own QR code standard for both dynamic and static QR codes that merchants can use. In and in 2019 it published a roadmap with plans to roll out the Mandated Payments Services, which is the core capability to enable use cases such as request-to-pay, bulk/batch payments and scheduled future payments.

MESSAGING STANDARDS

Jurisdiction	ISO 20022	ISO 8583	Proprietary
Australia 	✓		
Bahrain 	✓		
Chile 		✓	
EU 	✓		
China 	✓		
Hong Kong 	✓		
India ¹ 		✓ (IMPS)	✓ (XML - UPI)
Kenya ² 	✓		

Jurisdiction	ISO 20022	ISO 8583	Proprietary
Malaysia 	✓		
Mexico 			✓ (Binary)
Nigeria 			✓ (XML)
Poland 	✓		
Singapore 	✓		
Thailand 	✓		
UK ³ 		✓	
USA 	✓		

¹India's IMPS is planning to migrate to XML format

²Kenya's PesaLink is planning to migrate to ISO 20022

³UK's NPA (new system under development) will use ISO 20022

ROLE OF THE CENTRAL BANK

- Central banks typically play the role of **overseer of payment systems** (and very often the broader NPS).
 - **Both, public sector ownership (almost always by the central bank) and private sector ownership (as consortium of PSPs) of fast payment arrangements are common.**
 - In some cases, there is co-ownership of the central bank with the private sector.
 - In other cases, the structure is a separate not-for-profit entity (e.g., Turkey).
 - **Central bank ownership is often observed in cases where the underlying infrastructure (e.g., RTGS) is owned and operated by the central bank, as well as in cases in which the central bank also operates some of the key infrastructures for retail payments.**
- **The decision on ownership of implementation and continued operations of fast payments arrangements also depends on the method of implementation.**
 - If the fast payment capability is implemented on top of an existing payment platform, generally the owner of that platform also owns the fast payment implementation and operations.
 - If it is a new platform/system, then the ownership choice could be among the central bank, the private sector, or a hybrid model.
 - In some cases, the central bank might own/operate the platform while the private sector the scheme (and vice versa).

DEVELOPMENT TIMELINES

- ✓ **The timelines for fast payment implementation depend on such aspects as:**
 - ✓ the functionalities that are intended to be available at launch
 - ✓ whether the timeline has been mandated by public authorities, and
 - ✓ the time taken to get participants on board, among other factors.
- ✓ **Most jurisdictions have adopted a phased approach for implementation.**
 - ✓ For example, many jurisdictions went live with a rather basic infrastructure enabling P2P payments.
- ✓ **The phased approach is decided based on considerations such as:**
 - ✓ the overseer mandating participation
 - ✓ system readiness,
 - ✓ participant readiness, and
 - ✓ customer readiness.
- ✓ **Over the years, the operators have subsequently introduced upgrades and additional functionalities in terms of payment types, use cases, and channels.**
 - ✓ A few operators have also opened their basic infrastructure for third-party providers to introduce more innovative payment solutions in the market.

MALAYSIA (RPP): 1 year

POLAND (EXPRESS ELIXIR): 1 year and 6 months

MEXICO (SPEI): 2 years and 4 months

THAILAND (PROMPTPAY): 1 year and 6 months

UK (FPS): 3 years

INDIA (UPI): < 1 year

LESSONS LEARNED

LESSONS LEARNED

Conceptualization



- a) Determine objectives for FPS launch
- b) Understand market needs
- c) Carry out stakeholder consultation



- e) Assess other systems
- f) Develop a business case
- g) Garner industry support



- h) Assess participants capabilities
- i) Identify profit centers of participants
- j) Take a long-term view



- k) Carry out detailed assessments of existing infrastructure

Go-Live & Post implementation



- a) Generate customer awareness



- d) Evaluate risk mitigation measures



- b) Adopt a product roadmap approach



- f) Facilitate post launch engagements



- c) Implement robust oversight mechanism



- g) Provide customized solutions by leveraging payments data



Regulator



Operator



Participants



Owner

Design & Implementation



- a) Ensure structured planning
- b) Build a dynamic, scalable system
- c) Incorporate scope of innovation
- d) Provision of indirect participation
- e) Provision of participation of non-bank players
- f) Introduce appropriate pricing schemes
- g) Build customer trust in the system
- h) Leverage APIs for connectivity



- l) Keep an adequate stress testing window
- m) Adopt a common messaging standard
- n) Decide on transaction limits & specifications



- o) Assign a robust project management team



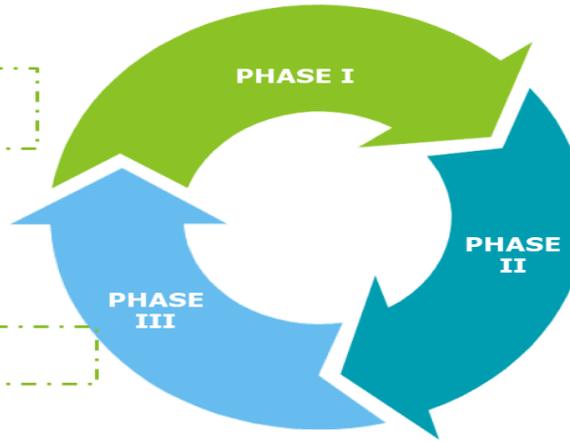
- q) Work in collaboration



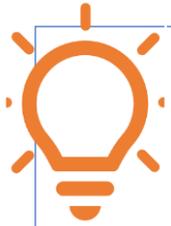
- j) Focus on key development components
- k) Incorporate robust risk management framework



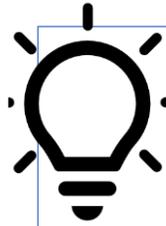
- r) Incorporate a strong, legal governance framework
- s) Establish common Payment Scheme governance



EMERGING THEMES



-Fast payment systems should be implemented with sustainability, scalability and interoperability in mind.



-The role of central bank can be important in fast payments, not just from a regulatory but also an operational perspective.



Harmonization of messaging standards can contribute toward interoperability.



Access of non-bank payment service providers makes fast payment systems more attractive to a wider range of end users.



A wide variety of use cases and access channels can help serve needs of different population segments. In particular, aliases, QR codes and request to pay can enhance user experience and increase uptake.



Fast payments can help enhance efficiency of cross-border payments.



Open access APIs can help build overlay services and increase competition.



Countries have gone for domestic fast payment systems, even in cases where they participate in regional fast payment systems.

THANK YOU!