PAYMENTS MODERNIZATION PROJECT

Standardization of QR code and its usage for instant payments

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01 - Context and Introduction

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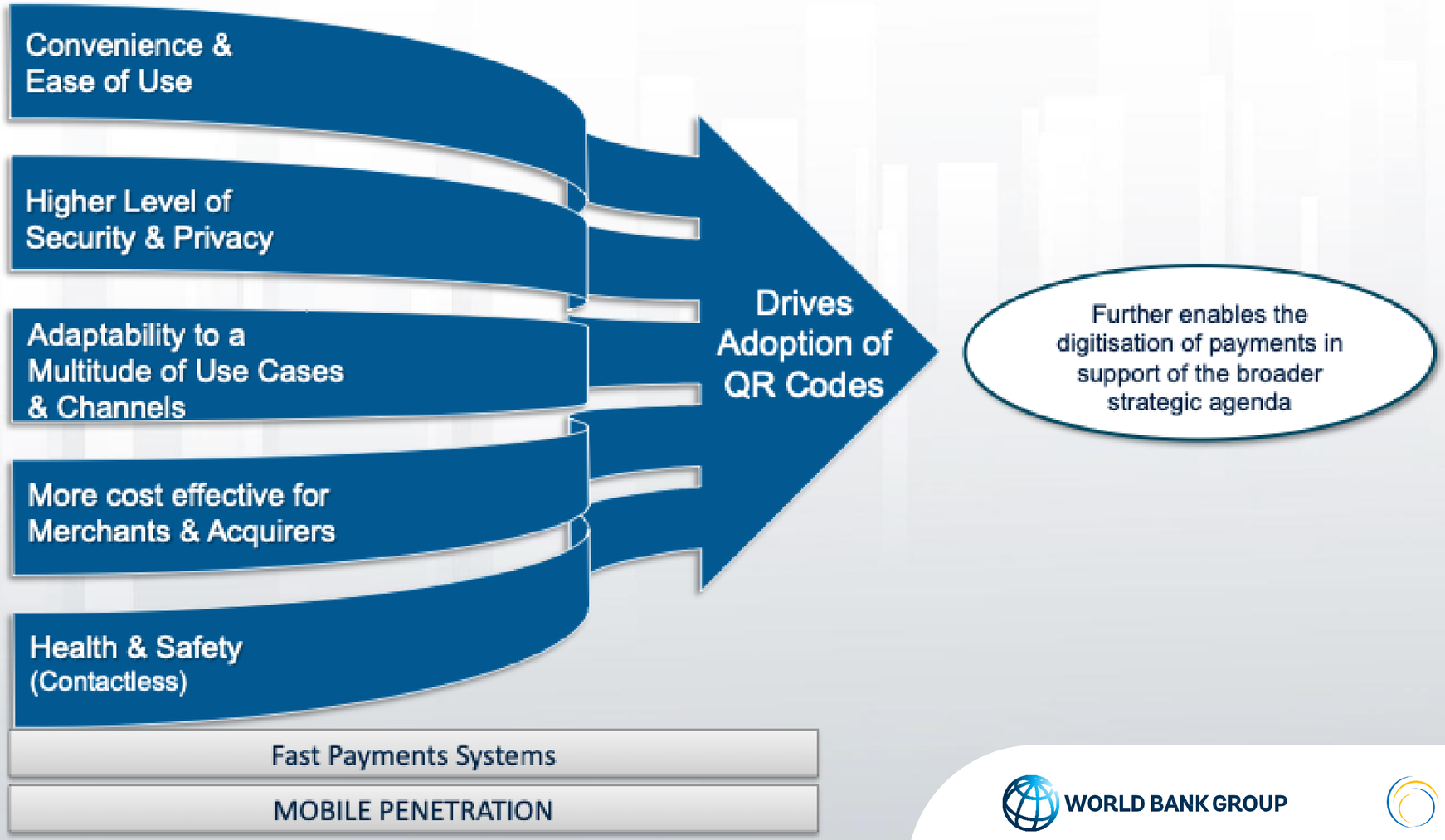
QR CODE BENEFITS AND ADOPTION DRIVERS



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QR CODE OVERVIEW

TWO-DIMENSIONAL BAR CODE

- Encoding of data in both horizontal and vertical axes.

USER FRIENDLY

- QR Code has become ubiquitous in many sectors and are increasingly being used in payments for a multitude of use cases.

TECHNOLOGY

- Machine-readable and can thus be read by most smartphone cameras.
- Contactless: Based on proximity technology for the data exchange between the consumer and the merchant to enable the initiation of a payment.

MODES

- Merchant-presented mode, where the data refers to merchant identification data and transaction data:
  - Merchant presents a request for payment to a payer, who can then verify the associated information and make a payment to the merchant or reject the request for payment.
  - It supports various payment types, including bill payments, online payments and point-of-sale payments.
- Consumer-presented mode, where the data refers to consumer identification data.

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QR CODE IMPLEMENTATION MODELS

IMPLEMENTATION MODELS

CENTRALISED

Characteristics of a centralised model:

- System is centrally hosted, operated and managed.
- Participants register with the central service.
- For each QR Code required the Participant will interface with the central system to obtain/generate a QR code, verify a dynamic or static QR code and perform detokenization of data in QR codes if applicable
- Participants must provide for QR code reading and decoding technology

STATIC QR CODE

DYNAMIC QR CODE

DECENTRALISED

The characteristics of a decentralised model are:

- Each Participant
  - have their own system and capability to generate QR codes, decode QR codes
  - make provision for tokenisation and detokenization capabilities in accordance with the standards
- The participants are responsible for developing their own QR code reading and decoding technology in accordance with the standards

STATIC QR CODE

DYNAMIC QR CODE

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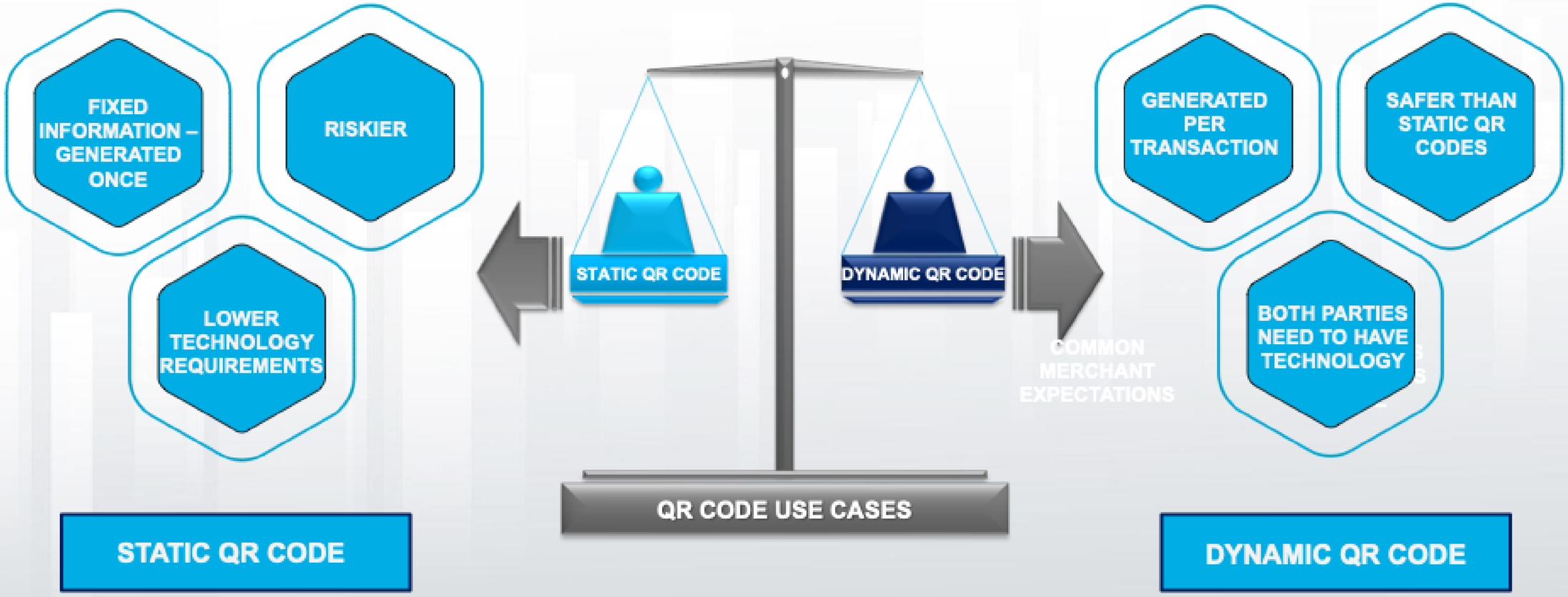
QR CODE HIGH LEVEL USE CASES



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STATIC QR CODE
COMMON BUSINESS USE CASES

MERCHANT PRESENTED

- Small merchants (e.g., florists or merchants that sell goods at a fresh produce market, etc.) encode their payment details in the QR code.
- Transactions with a fixed amount (such as bus Tickets, Parking).

1. MERCHANT ENCODES PAYMENT DETAILS IN QR CODE
2. CONSUMER PURCHASES PRODUCTS & SERVICES
3. CONSUMER SCANS THE QR CODE & ENTERS AMOUNT WHEN PROMPTED
4. MERCHANT INFORMATION IS DISPLAYED FOR CONSUMER TO VERIFY
5. UPON CONSUMER CONFIRMATION THE PAYMENT IS INITIATED

CONSUMER PRESENTED

- Financial Identities to access banking services

1. CONSUMER GENERATES QR CODE ON MOBILE DEVICE WITH THEIR FINANCIAL ID INFORMATION
2. WHEN ACCESSING EXISTING BANKING SERVICES OR APPLIES FOR NEW FINANCIAL SERVICES THE CONSUMER DISPLAYS THEIR FINANCIAL ID
3. BANK OR SERVICE PROVIDER SCANS THE QR CODE AND AFTER AUTHENTICATION AND VERIFICATION, GETS ACCESS TO THE SERVICE OR IF A NEW SERVICE THE REQUIRED FORM CAN BE AUTOMATICALLY POPULATED AND THE CONSUMER NOTIFIED OF THE OUTCOME

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DYNAMIC QR CODE
COMMON BUSINESS USE CASES

MERCHANT PRESENTED

- Dynamic QR codes are commonly used in payments, e-commerce payments, bill payments as well as payments at self-service kiosks.
- A typical use case of dynamic QR code is payment for online shopping

1. CONSUMER PURCHASES PRODUCTS & SERVICES
2. MERCHANT GENERATES DYNAMIC QR CODE WITH PAYMENT DETAILS
3. CONSUMER SCANS THE QR CODE
4. TRANSACTION INFORMATION IS DISPLAYED FOR CONSUMER TO VERIFY
5. UPON CONSUMER CONFIRMATION THE PAYMENT IS INITIATED

CONSUMER PRESENTED

- Deposit cash

1. CONSUMER GENERATES QR CODE ON MOBILE DEVICE INDICATING PARTICIPATING SERVICE PROVIDER & ACCOUNT
2. CONSUMER TAKES CASH TO PARTICIPATING SERVICE PROVIDER
3. SERVICE PROVIDER SCANS THE QR CODE & TAKES THE CASH
4. TRANSACTION IS EXECUTED AND CASH IS IMMEDIATELY REFLECTED IN CONSUMER'S ACCOUNT

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02 - Standardization of QR Codes

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HARNESS THE TRUE VALUE OF QR CODES
ADOPT A COMMON STANDARD

BENEFITS OF ADOPTING A STANDARD DOMESTICALLY

ENSURE COMPATIBILITY & INTEROPERABILITY

Ensure compatibility and interoperability **among different devices and platforms** that use QR codes, which leads to **reduced costs and increased efficiency and prevents the creation of closed-loop QR code systems** which leads to market fragmentation

ENHANCED USER EXPERIENCE

Provides an improved user experience **making payments more convenient, faster, safer & cheaper.**

FOSTER INNOVATION

Standardizing QR codes domestically is a **key enabler for Fast Payments Implementations promoting the development of new products and services** based on a common platform and network, and the **collaboration among different stakeholders** such as businesses, consumers, regulators, and developers.

ENHANCE SECURITY AND PRIVACY

Provides enhanced security and privacy by **encoding data** in QR codes and by **defining minimum standards for encryption, verification and authorisation.**

CREATE INCLUSIVE DIGITAL ECONOMY

Can help create a more inclusive and sustainable digital economy **by providing access to affordable, convenient, and secure payment solutions for everyone.**

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QR CODE BENEFITS AND ADOPTION DRIVERS

BENEFITS OF ADOPTING A STANDARD REGIONALLY & INTERNATIONALLY

FACILITATE TRADE

To **facilitate trade and tourism** by enabling seamless and convenient payments across different jurisdictions and regions

FOSTER GLOBAL INNOVATION

To foster global innovation and development of new applications and services that use QR codes **by creating a common platform and network for collaboration among different stakeholders** such as businesses, consumers, regulators, and developers

ENHANCE SECURITY AND PRIVACY

Enhance global security and privacy of encoded data **by adopting common standards and best practices for encryption, authentication, and verification.**

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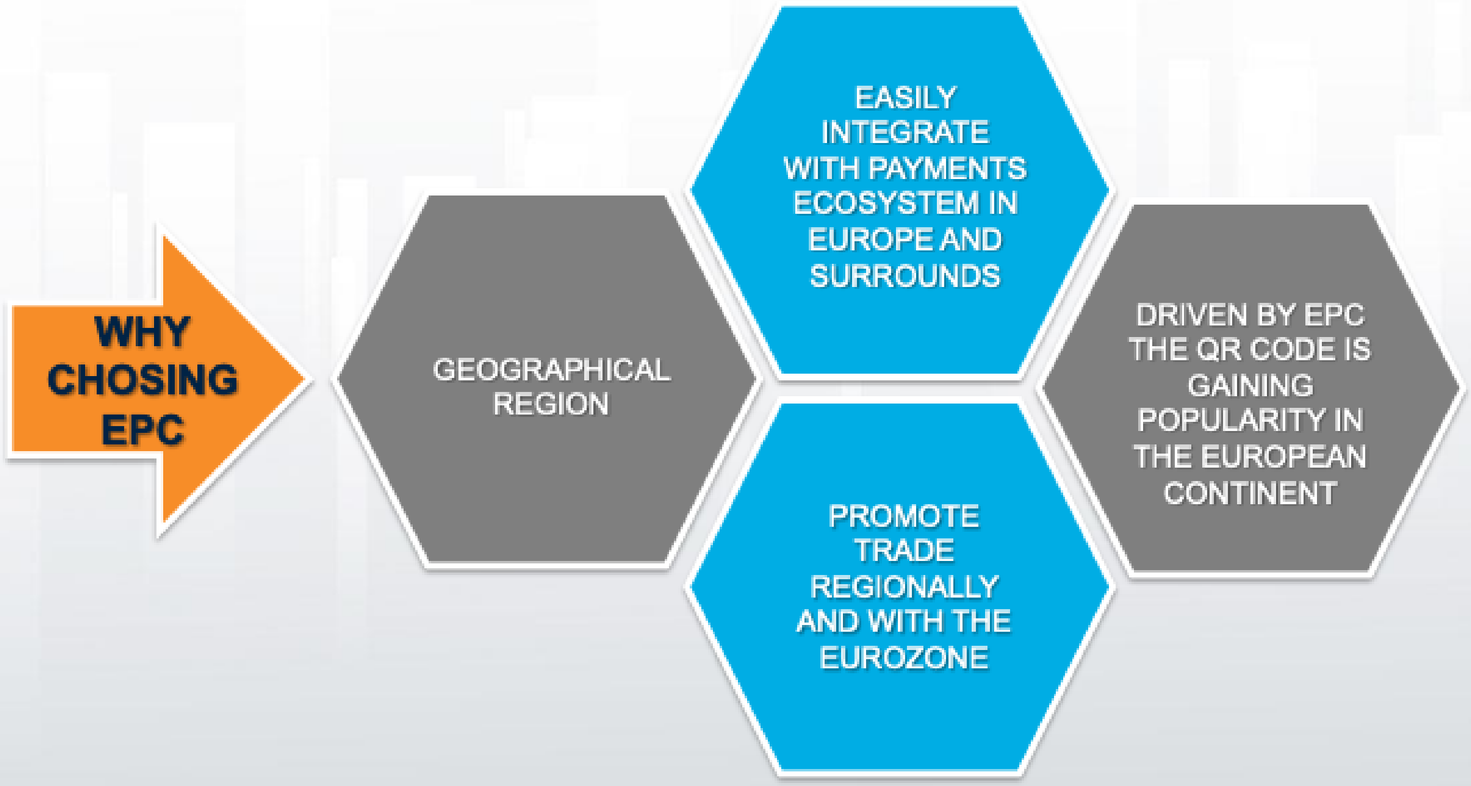
REASONS TO ADOPT THE EPC QR CODE STANDARD

EPC AND EMVCO ARE COMPARABLE STANDARDS

- Both QR Code standards are flexible.
- Both QR Code standards support interoperability with other QR Codes.
- The EPC QR Code standard is gaining popularity across the European continent while the EMVCo QR Code standard is gaining popularity outside the European region.



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REASONS TO ADOPT THE EPC QR CODE STANDARD

1. Agreement to Adopt the EPC QR Code Standard as domestic* and regional standard — DONE
2. Implement Domestic QR Code Standards in line with EPC QR guidelines with the WB team support. — DONE
3. Implement Regional QR Code Standard under the guidance of CEFTA as the regional Governing Body — WIP

*Jurisdictions that already have a different domestic QR code standard, can use EPC only for regional payment

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03 - Q&A

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THANK YOU

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