



Eastern Caribbean Central Bank

THE ECCB FINTECH PROJECT

Digital Eastern Caribbean Currency Dollar (DXCD)



**PAYMENTS WEEK
CEMLA/WORLD
BANK/BIS**

NOVEMBER 2019





VISION

The ECCB envisages a payment system that is efficient, accessible, reliable, and secure and is responsive to technological development to engender confidence and contribute positively to the financial stability of the ECCU region.





DXCDCaribe
Connecting Our Region...Transforming Lives

**A secure, accessible, innovative,
real time payment instrument in
the Eastern Caribbean Currency
Union (ECCU)**



DXCD Features

- ▶ Secure sovereign, digital version of the EC currency operating alongside physical cash and other current payment instruments.

Sovereign Currency. Legal Tender. DXCD \$2.7 – US\$1

ECCB Liability. Co-circulates with physical cash, bears no credit risk and is non-interest bearing

Payment service instrument offering safe, secure, real-time settlement

Distributed by licensed banks, non-bank financial institutions and approved service providers

Transactions facilitated via digital wallets on smart devices

Substitute for physical currency (notes, coins, cheques) and electronic money (debit cards, wire transfers)

Not a savings, deposit, lending or an investment instrument

P2P, B2B, M2M, P2B, B2P, P2M, M2P, B2M, M2B



DXCD Pilot Objectives

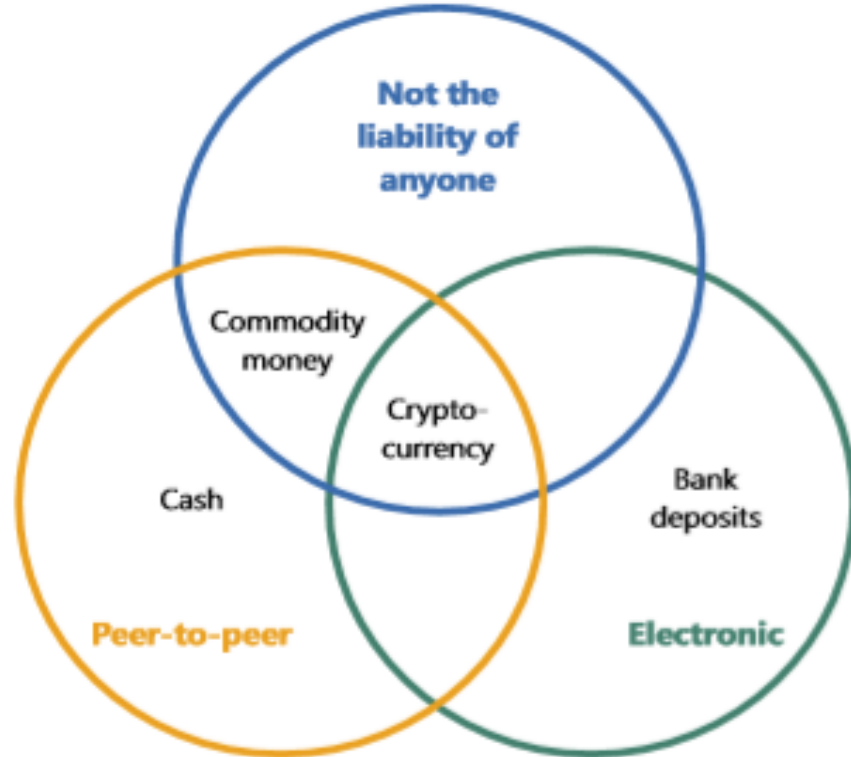
- The policy objectives being pursued include payment efficiencies, and promoting innovation, business development and increased productivity with a view to advancing **inclusive growth, economic resilience & competitiveness** and **greater financial inclusion**.
- The DXCD is intended to address perennial problems that affect the region's **inefficiency, weak institutional frameworks, opacity, information asymmetries** and **the high cost of conducting business**.



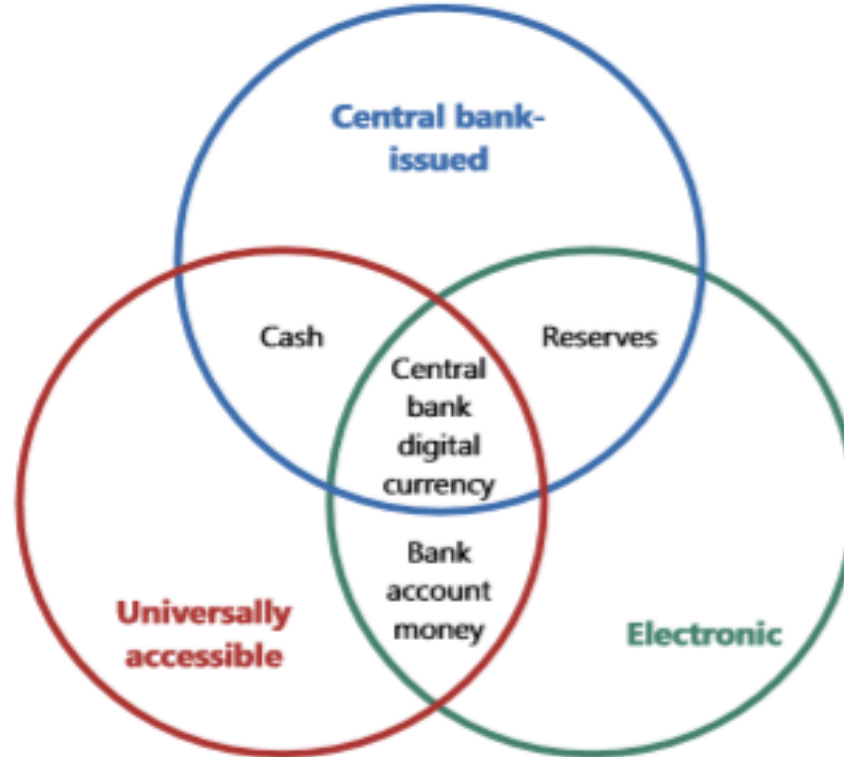
DXCD is NOT a Cryptocurrency

Two taxonomies of new forms of currency

Cryptocurrency, CPMI (2015)



Central bank digital currency, Bjerg (2017)



DXCD is sovereign currency issued by the ECCB on a Private, Permissioned network where the identity of all parties is verifiable



Eastern Caribbean Central Bank

Why does Central Bank issued Digital Currency matter?

	Central Banks	Financial Institutions	Businesses	Consumers
Payment System Efficiency	<ul style="list-style-type: none"> Increase efficiencies to drive public policy objectives (<i>financial inclusion, growth, etc.</i>) Enhanced regulatory compliance 	<ul style="list-style-type: none"> Reduction in Cash handling, Optimized Treasury and Operations 	<ul style="list-style-type: none"> Reduction in cost of trading, Improve efficiency of cross-border payments 	<ul style="list-style-type: none"> Faster, safer remittances P2P, P2B payments
New Opportunities	<ul style="list-style-type: none"> Wholesale and Retail CBDC New monetary policy tool 	<ul style="list-style-type: none"> Digital Asset Digital Services Digital Wallets 	<ul style="list-style-type: none"> New Payment Channels, New business models 	<ul style="list-style-type: none"> Reduction in payment frictions New fintech services offerings
Improved Access to Digital Payments	<ul style="list-style-type: none"> Sovereign Digital Cash Modernisation 	<ul style="list-style-type: none"> A digital form of cash which is a liability on the Central Bank. 	<ul style="list-style-type: none"> Access to digital payments New financial services 	<ul style="list-style-type: none"> Financial Inclusion – Access to digital payments



DXCD's Transformative Potential for the ECCU Financial System

Design Characteristics

SIMPLIFY REGULATORY COMPLIANCE

- Real-time KYC/AML-CFT
- Enhanced fraud detection
- Auditability
- Traceability
- Reduce data fragmentation
- Automated Controls –
Coordinate Disparate Laws (Taxation, AML/CFT)
- Data Standardization

ENHANCE OPERATIONAL EFFICIENCIES

- Lower administrative burden
- Reduce expenses, losses and risks
- Heighten responsiveness
- Enhanced customer onboarding
- Seamless Treasury Operations
- Faster payment processing

FUTURE PROOFING

- Modernise Payment system
- Leveraging FinTech
- Enhanced CRM
- Improved Data collection Analytics

ACCESS CONTROLS, SAFEGUARDS & DATA PROTECTION

- Private permissioned blockchain
- Built-in Cyber Resilience (HSM)
- Multifactor Authentication
- Multi-signature Solution
- Endpoint Management
- Identity Management Control -Unique Identifier
- Privileged Access Management
- Reduce Risk of Financial Crime



DXCD Models

- 1) **Registered-based Model (Cold storage)**: This involves a holding account. FIs provide custody of the account holders' private keys. This model is applicable to persons who have an existing relationship with a financial institution. The financial institution would be responsible for KYC and AML/CFT monitoring.
- 2) **Value-based Model (Hot storage)** - The private and public keys are stored in a secure manner on the owner's smart device and facilitate transfers without the need for custodian services. This model facilitates persons who do not have a bank account to be able to carry out low value transactions based on pre-set wallet limits. KYC applies but not subjected to permanent monitoring.



DXCD Value Based (Non Custodial) Wallet Limits:

Limits Period	Limit Calculation	Caps
Monthly	Total value of transactions per calendar month	2000
Weekly	Total value of transactions per calendar week	500
Daily	Total value of transactions daily	300
P2P transfers	Total value able to send and receive in a single transaction	500

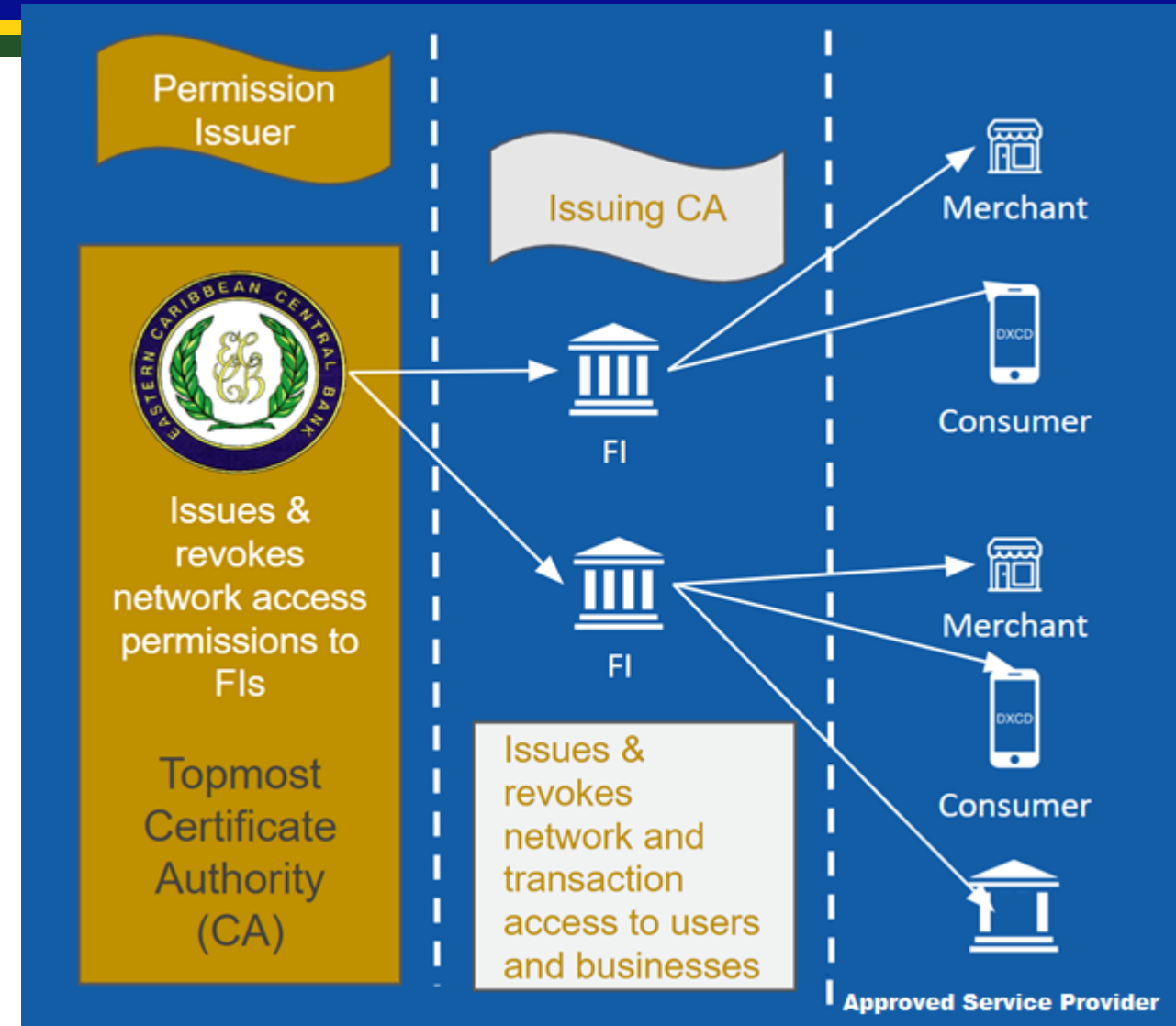
NOTE: The table reflects ongoing discussions on the limits.



THE DXCD PILOT ARRANGEMENT



ACCESS TO THE DXCD PILOT ARRANGEMENT





Customer on boarding lifecycle in the risk-based approach for Value based wallet holders:

- All users of the value based wallets have to first meet the KYC requirements to be on boarded to the network. They are no anonymous users. Customer identification would involve a two-part process and **performed by a non-bank licensed financial institution:**
 - ❑ 1) obtain identification data in accordance with the KYC regulations; and
 - ❑ 2) verify the reliability and accuracy of the data provided.



The Pilot Arrangement: Operations and Access

Description of the arrangement	DXCD will be a claim on the ECCB and for the pilot, DXCD losses due to infrastructure failure will be guaranteed by the ECCB. DXCD will be treated as a digital form of cash (XCD). The ECCB assures that the DXCD system will provide a high degree of security and operational reliability and will have contingency arrangements for timely completion of daily processing.
Operation of the arrangement	5 - 300 employee capacity Software as a Service (DXCD applications and service management, Customer identity, KYC / AML / CFT, Transaction Monitoring)
Access to the arrangement	Restricted - Only approved entities can use the DXCD service;



ECCB DXCD PILOT

ROLES AND RESPONSIBILITIES OF STAKEHOLDERS

Stakeholder	Authority	Key Responsibilities	
		Fulfillment Services	Assurance Services
ECCB	<ul style="list-style-type: none"> • Allocation of all access to the pilot (including merchants, service providers and customers) • Implement governance decisions for operation of the pilot • Issue and redeem DXCD • Onboard FIs to the network • Regulator for DXCD Network 	<ul style="list-style-type: none"> • Issues and Revokes certificates for FIs • Verify the security of all DXCD applications • Establish and verifying governing rules / protocols for the operation of the pilot 	<ul style="list-style-type: none"> • Oversight • Regulation • Guidance and supervision
11/21/2019	Transforming The ECCU Together		15




ECCB DXCD PILOT

FINANCIAL INSTITUTIONS: ROLES, RESPONSIBILITIES, ACTIVITIES ...cont'd

Agency Role	Agency Key Responsibilities	Agency Key Activities
Business Process Team	<ul style="list-style-type: none"> Provides insight into key business processes. Relationship management with customers Issues and revokes network and transaction access to users and businesses with certificates 	<ul style="list-style-type: none"> Compliance (KYC) Risk Management Payment Operations Providing feedback to the ECCB team through the SPOC
Services Support Team	<ul style="list-style-type: none"> Focuses on technology systems to improve processes that support customer experience teams. Administration for the roles and responsibilities for employees within the Agency 	<ul style="list-style-type: none"> IT and Tier 2 DXCD support Providing feedback to the ECCB team through the SPOC (Re)Training of customer experience team



BITT Inc.- Roles and Responsibilities

Stakeholder	Authority	Key Responsibilities
 <p>ECCB Financial Technology Service Provider</p>	<p>Host and Operate the technology of the Pilot Arrangement on behalf of The ECCB</p>	<ul style="list-style-type: none">• DXCD network operations and maintenance• Provide technical guidance to the ECCB and FIs• Implement governing rules / protocols for the operation of the pilot as provided by the ECCB• Facilitate compliance and audit verification for rules / protocols• Provide secure network APIs for WSPs build 3rd party applications for the DXCD network• Provide applications for the operations for the DXCD network for all pilot participants• Provide Tier 3 support for FIs and the ECCB regarding the operations of the DXCD network• Provide training and operations guidelines as technology services provider



DXCD Application Framework

- ▶ Network security is a critical component of the ECCB's digital EC currency (DXCD). Network features include:

Built-in rules-driven controls

Security credentials management

Cyber security protocols based on multi-factor authentication.
Ability to be upgraded continuously to address current and emerging threats

Authentication and authorisation before any information is transferred

Secured Transaction Management

End to end encryption of data (at rest and in transit)

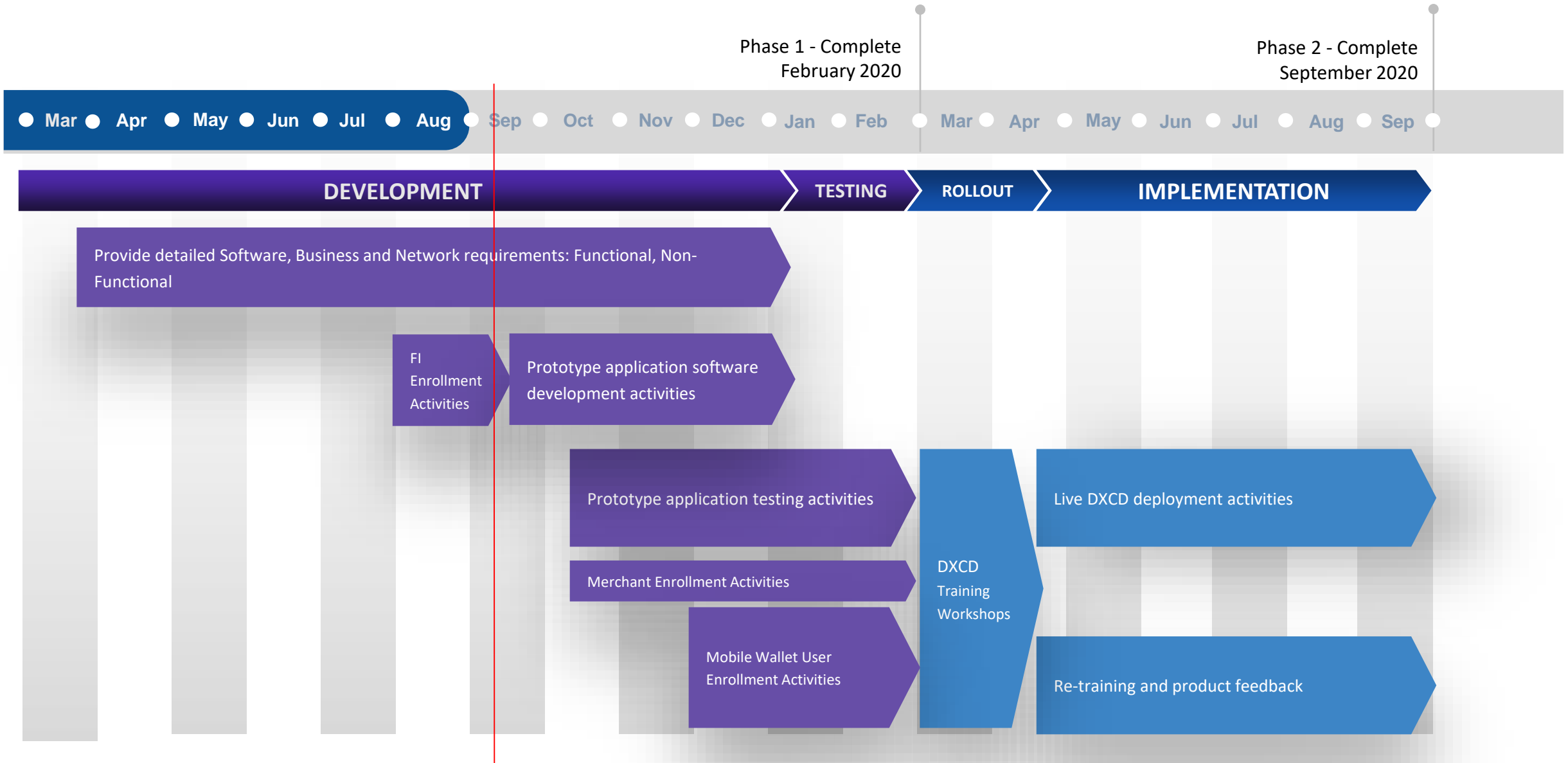


DXCD Application Framework

Authorized, permissioned employees within participating FIs will operate software provided by the ECCB

Data integrity, security and privacy issues related to the ECCB's Digital Eastern Caribbean Currency	Blockchain structures as the foundational layer for the DXCD digital currency prevent data tampering while preserving privacy between transacting peers
Records and Reporting Requirements	The blockchain, which immutably records the history of all transactions, whether valid or invalid and a world state that holds a cache of the current value of these states. All transactions are added to a distributed ledger, but only valid transactions update the world state.
Encryption	End to end encryption. All data encrypted at rest and in transit
Incident response	DXCD Risk management framework

Project Timeline: Development, Testing and Rollout





Conclusion Messages

Vision Roadmap:-The DXCD Caribe pilot initiative is the first step towards full deployment and part of the ongoing transformation of the ECCU financial infrastructure to enable the region to compete in a digital global economy.

Digital equivalent of EC hard cash:- Holders will be able to use DXCD to pay for goods and services offered by street vendors, brick and mortar and online stores within the ECCU.

Security IT:- industry security standards and best practice are built into the solution to ensure maximum security of the DXCDCaribe environment Access to the DXCDCaribe network is permissioned and requires username and password Transactions between parties are guaranteed to be private.



Eastern Caribbean Central Bank

ECCB DIGITAL EASTERN CARIBBEAN CURRENCY PILOT

THANK YOU



 Eastern Caribbean Central Bank
P O Box 89, Basseterre, St Kitts and Nevis

☎: (869) 465-2537 ☎: (869) 465-9562
✉: info@eccb-centralbank.org 🌐: www.eccb-centralbank.org
www.facebook.com/ECCBConnects ✦ ECCB Connects – YouTube